

**Nuvoton ISD9xxx ICP Programmer User Guide
V1.17.5182**

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1. Introduction

Nuvoton ISD9xxx ICP is the acronym of In-Circuit Programming, which makes it possible for user to update the MCU's program memory under the software control without removing the mounted MCU chip from the actual end product.

Nuvoton ISD9xxx ICP supports "Offline programming mode". For the first step, user can save the flash data in ICP dongle. And the next step, user can program the target device with this dongle only, without PC and Nuvoton ISD9xxx ICP required.

1.1.1 Support chip of Nuvoton

Please refer to datasheet form at: <http://www.nuvoton.com>

1.1.2 Features

- 1.1.2.1 In-Circuit programming target board
- 1.1.2.2 Offline programming mode
- 1.1.2.3 Backup flash data of target board (If the target board is not flash protected)
- 1.1.2.4 Backup offline flash data

1.1.3 Connected

- 1.1.3.1 Step1: Nuvoton ISD9xxxICP has connected PC USB port
- 1.1.3.2 Step2: Start to run Nuvoton ISD9xxx ICP Programmer AP and click "Connect".

1.2 Limitation

Download file format: [bin](#) or [Intel hex](#) file format. Intel Hex format supports Intel 8, 16 and 32.

1.3 Installation

1.3.1 System requirement

The hardware and software requirements for installing Nuvoton ISD9xxxICP Programmer system are as follows :

- PC/AT compatible machine with Pentium or higher CPU
- XVGA(1024*768) color monitor
- At least 512M RAM for best performance
- At least 80M free disk space
- Windows 2000/XP/Vista/7

1.3.2 Hardware installation

1.3.2.1 USB

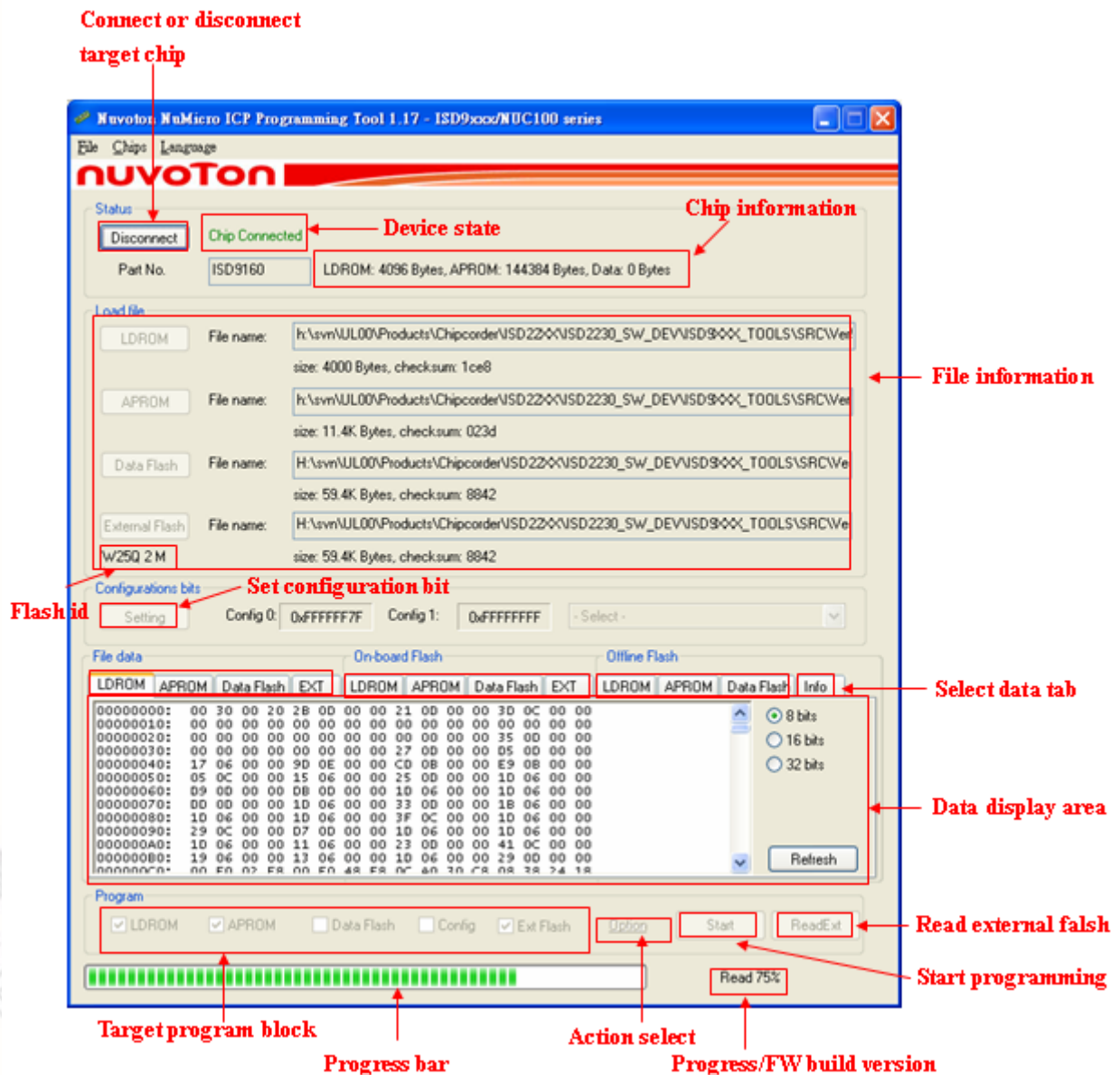
- Step1: Plug USB cable into the USB port of the Nuvoton ISD9xxx ICP Programmer board
- Step2: Connect Nuvoton ISD9xxx ICP Programmer board with ICE interface of ISD9160 DEV board.

1.3.3 Software installation

User can install ISD9xxxSetupVx-xx.xx.xxxx.EXE. Also don't install software, user can run Nuvoton ISD9xxx ICP directly.

1.3.3.1

2. Introduction to the application program



3. Quick Start

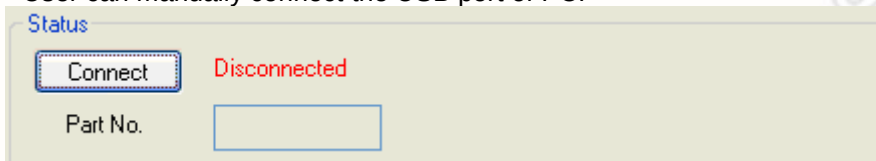
This chapter introduces the general operations.

3.1 Open USB port

Nuvoton ISD9xxx ICP Programmer can be connected through the USB port of the PC automatically if the hardware is ready.

3.1.1 Before connecting

User can manually connect the USB port of PC.



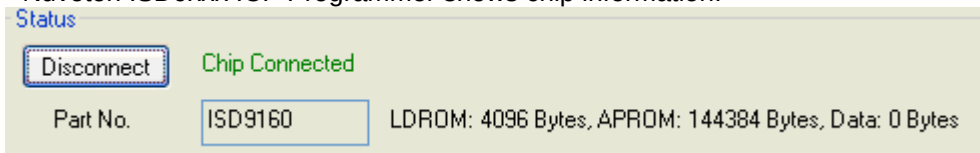
3.1.2 After USB dongle connected successfully

Nuvoton ISD9xxx ICP Programmer shows "ICE Connected".



3.1.3 After target device connected successfully

Nuvoton ISD9xxx ICP Programmer shows chip information.



3.2 File Information

3.2.1 Select download file for programming

First select file, file size and checksum in file information block.

Load file

LDRM	File name:	H:\svn\UL00\Products\Chipcorder\ISD22XX\ISD2230_SW_DEV\ISD9xxx_TOOLS\SRC\Ver!
		size: 4000 Bytes, checksum: 1ce8
APROM	File name:	H:\svn\UL00\Products\Chipcorder\ISD22XX\ISD2230_SW_DEV\ISD9xxx_TOOLS\SRC\We
		size: 11.3K Bytes, checksum: d9e4
Data Flash	File name:	H:\svn\UL00\Products\Chipcorder\ISD22XX\ISD2230_SW_DEV\ISD9xxx_TOOLS\SRC\We
		size: 59.4K Bytes, checksum: 8842
External Flash	File name:	H:\svn\UL00\Products\Chipcorder\ISD22XX\ISD2230_SW_DEV\ISD9xxx_TOOLS\SRC\We
		size: 59.4K Bytes, checksum: 8842

3.3 Configuration bits

It contains configuration bits setting by chip's choice.

Chip Options

Clock source selection

☐ External crystal clock (4~24MHz)

☒ Internal RC 22MHz oscillator clock

Brown out voltage

☒ 4.5v ☐ 3.8v ☐ 2.7v ☐ 2.2v

Boot select

☒ LDR0M ☐ APROM

☒ Clock Filter Enable ☐ Brown Out Detector Enable

☐ Brown Out Reset Enable ☐ Security Lock

☐ Data Flash Enable

Data Flash Base Address: 0x FFFFFFFF

Config value

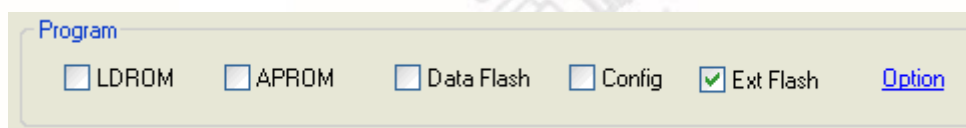
Config 0: 0xFFFFFFFF Config 1: 0xFFFFFFFF

OK Cancel

3.3.1.1

3.4 Target program block

It contains APROM, DataFlash, LDROM, configuration and External Flash setting selected by user's choice.



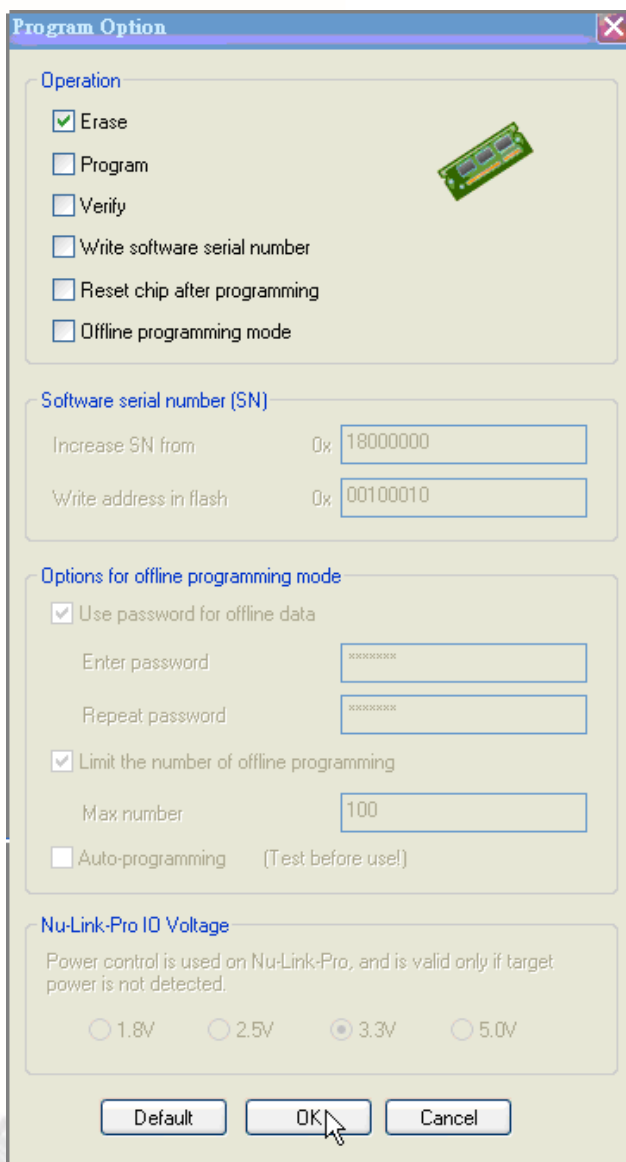
Program

☐ LDROM ☐ APROM ☐ Data Flash ☐ Config ☒ Ext Flash [Option](#)

3.4.1.1

3.5 Action select

It contains erase, program, program verify, offline mode option setting selected by user's choice.



3.6 Program mode

3.6.1 Nuvoton ISD9xxx ICP Programmer AP's operation mode

3.6.1.1 Online mode

If "Offline mode" is unchecked, click "Start" button and will start to program the target device immediately.

3.6.1.2 Offline mode

If "Offline mode" is checked, click "Start" button and will save the file data into ICP dongle, whenever the target device is connected to ICP dongle or not.

3.6.2 ICP dongle operation mode

ICP dongle has two modes, ICE mode and OD mode. Press the key about 2 seconds and will switch the ICP dongle between ICE mode and OD mode.

ICE mode is the default mode of ICP dongle.

3.6.2.1 ICE mode

Nuvoton ISD9xxx ICP Programmer AP can only connect with ICP dongle in ICE mode.

3.6.2.2 OD mode

In OD mode, press the key shortly and release immediately and will start to program the target device. It does not require PC and Nuvoton ISD9xxx ICP Programmer AP for this operation. Please note that the file data must be saved in ICP dongle in ICE mode.

3.6.2.3 Keypad and LED indication of LCP dongle

Booting

All LEDs (ICE_Red, ISP_Orange, Red, Green) blinking

ICE mode

ICE_Red - on

ISP_Orange - off

Red - on if there is an error

Green - on if ICP dongle is active

Keypad - long press (2 seconds) to switch to "OD mode"

OD mode

ICE_Red - off

ISP_Orange - on

Red - off

Green - on if flash is downloading

Keypad - long press (2 seconds) to switch to "ICE mode";

- or short press to start to download flash to target board.

If "Green" is blinking and "ISP_Orange is on", it indicates that it is downloading flash continuously. Any other type of LED blinking indicates an error.

3.7 Status

Nuvoton ISD9xxx ICP Programmer AP contains progress bar and program status. After programming is over, it will popup a MessageBox to display the success information or any other failed information on error.

3.7.1.1



3.7.1.2

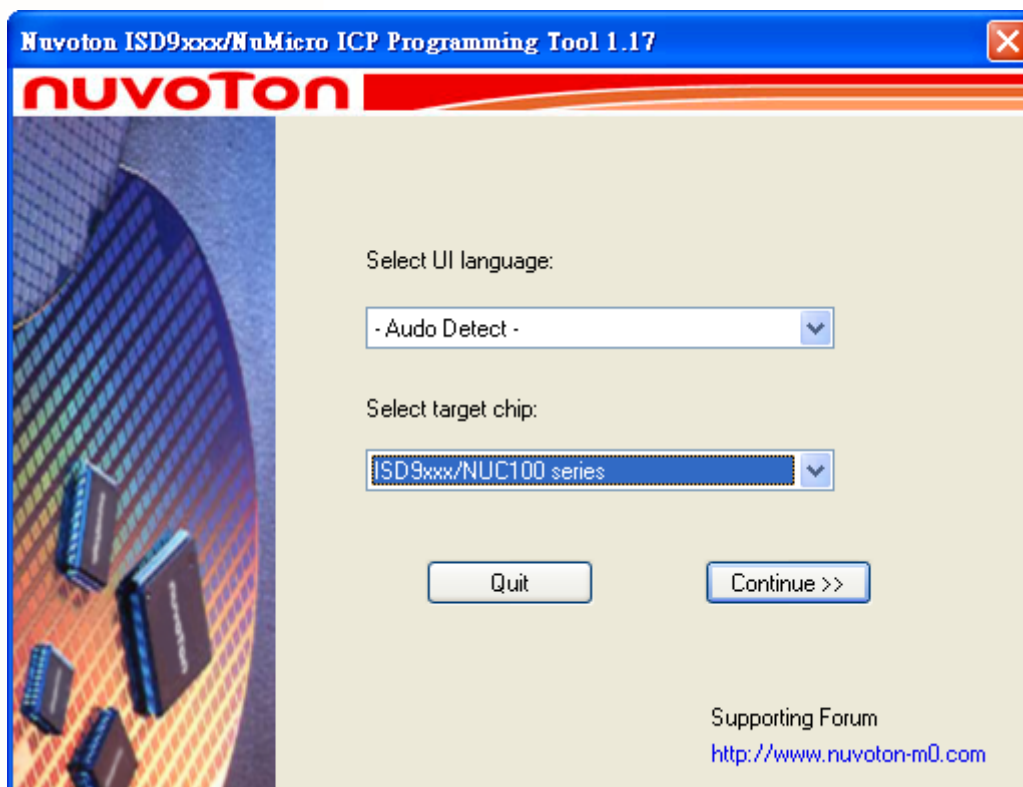
Appendix.

A. Step by Step

Step:

Step1:

ICPTool.exe



ICPTool.exe /skip

Nuvoton NuMicro ICP Programming Tool 1.17 - ISD9xxx/NUC100 series

File Chips Language

nuvoTon

Status

Disconnect Chip Connected

Part No. ISD9160 LDR0M: 4096 Bytes, APROM: 144384 Bytes, Data: 0 Bytes

Load file

LDR0M File name: h:\svn\UL00\Products\Chipcorder\ISD22XX\ISD2230_SW_DEV\ISD9XXX_TOOLS\SRC\Ver!
size: 4000 Bytes, checksum: 1ce8

APROM File name: h:\svn\UL00\Products\Chipcorder\ISD22XX\ISD2230_SW_DEV\ISD9XXX_TOOLS\SRC\Ver!
size: 11.4K Bytes, checksum: 023d

Data Flash File name: H:\svn\UL00\Products\Chipcorder\ISD22XX\ISD2230_SW_DEV\ISD9XXX_TOOLS\SRC\We
size: 59.4K Bytes, checksum: 8842

External Flash File name: H:\svn\UL00\Products\Chipcorder\ISD22XX\ISD2230_SW_DEV\ISD9XXX_TOOLS\SRC\We
W25Q 2 M size: 59.4K Bytes, checksum: 8842

Configurations bits

Setting Config 0: 0xFFFFFFFF Config 1: 0xFFFFFFFF - Select -

File data

On-board Flash				Offline Flash			
LDR0M	APROM	Data Flash	EXT	LDR0M	APROM	Data Flash	EXT
00000000:	00 30 00 20	28 00 00 00	21 00 00 00	3D 0C 00 00	00 00 00 00		
00000010:	00 00 00 00	00 00 00 00	00 00 00 00	00 00 00 00	35 00 00 00		
00000020:	00 00 00 00	00 00 00 00	00 00 00 00	27 00 00 00	05 00 00 00		
00000030:	00 00 00 00	00 00 00 00	00 00 00 00	CD 0B 00 00	E9 0B 00 00		
00000040:	17 06 00 00	9D 0E 00 00	00 00 00 00	25 00 00 00	10 06 00 00		
00000050:	05 0C 00 00	15 06 00 00	00 00 00 00	10 06 00 00	10 06 00 00		
00000060:	D9 0D 00 00	0B 0D 00 00	00 00 00 00	10 06 00 00	10 06 00 00		
00000070:	0D 06 00 00	10 06 00 00	00 00 00 00	33 0D 00 00	1B 06 00 00		
00000080:	1D 06 00 00	10 06 00 00	00 00 00 00	3F 0C 00 00	10 06 00 00		
00000090:	29 0C 00 00	D7 0D 00 00	00 00 00 00	10 06 00 00	10 06 00 00		
000000A0:	1D 06 00 00	11 06 00 00	00 00 00 00	23 0D 00 00	41 0C 00 00		
000000B0:	19 06 00 00	13 06 00 00	00 00 00 00	10 06 00 00	29 0D 00 00		
000000C0:	00 F0 02 F8	00 F0 48 F8	0C 40 30 C8	08 38 24 18			

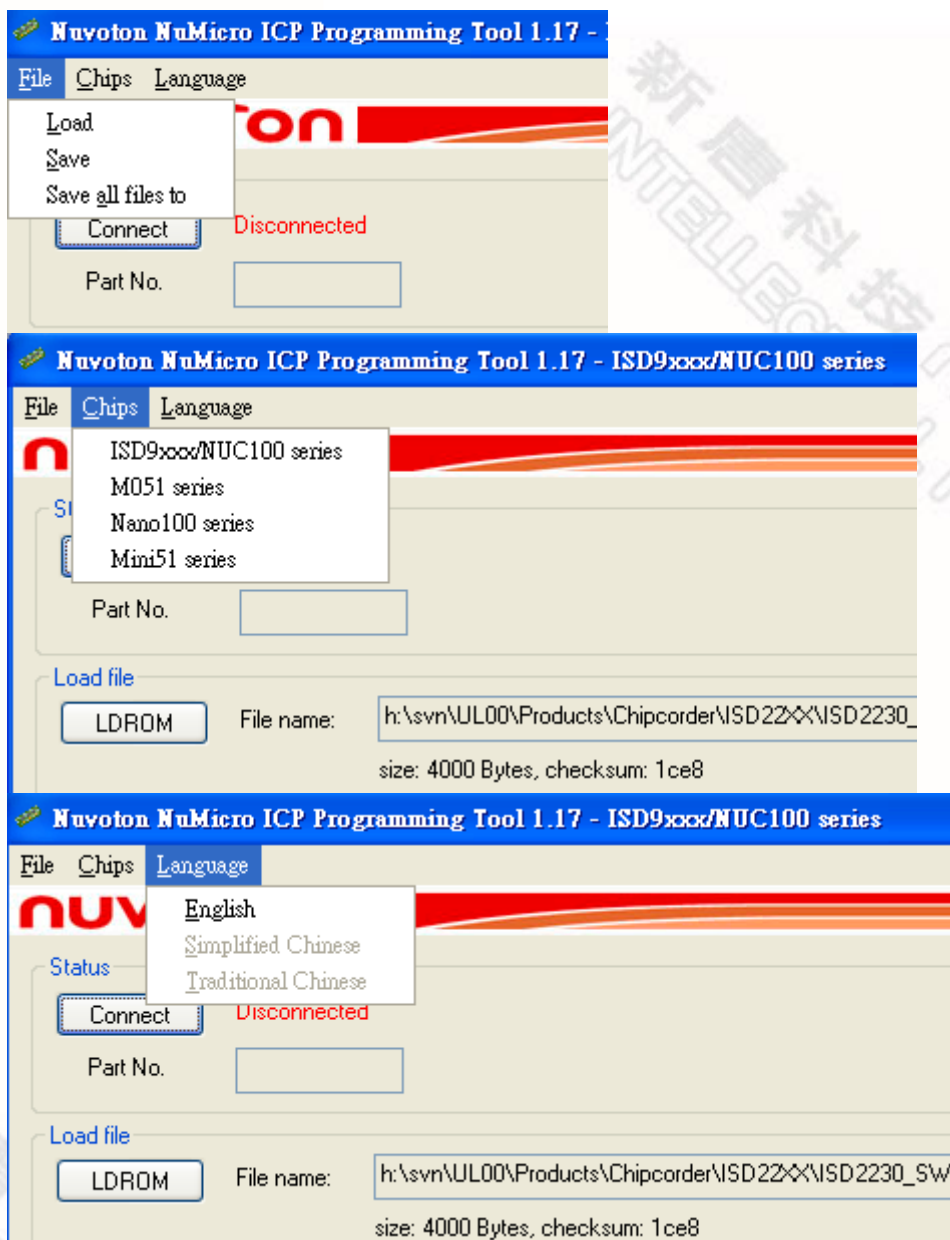
8 bits 16 bits 32 bits

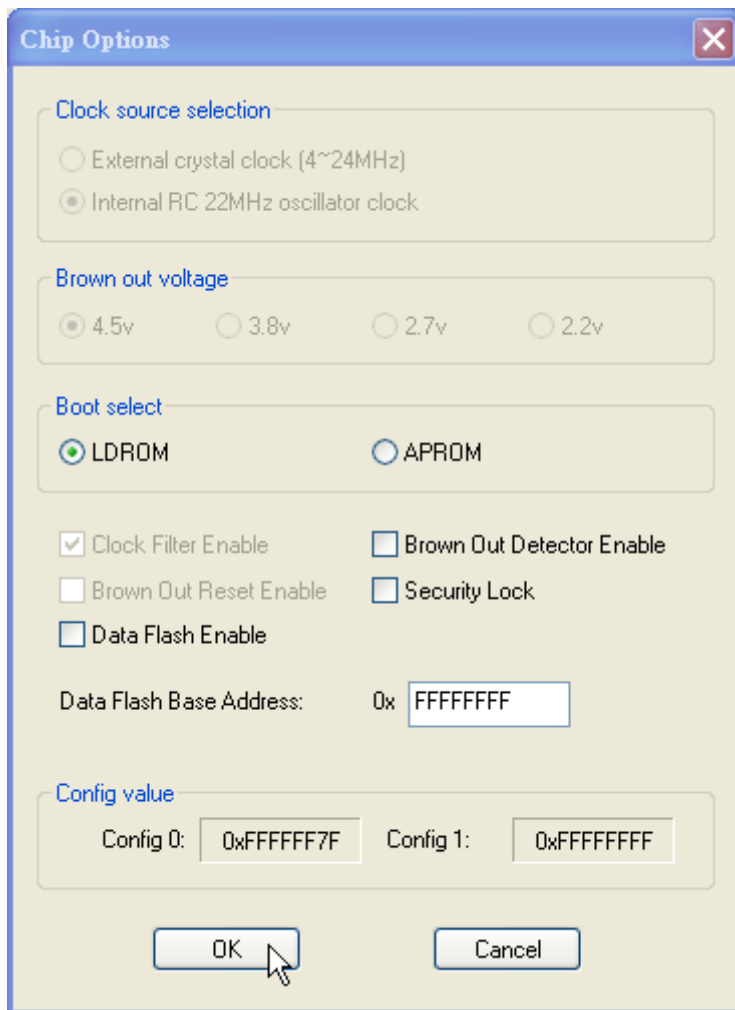
Refresh

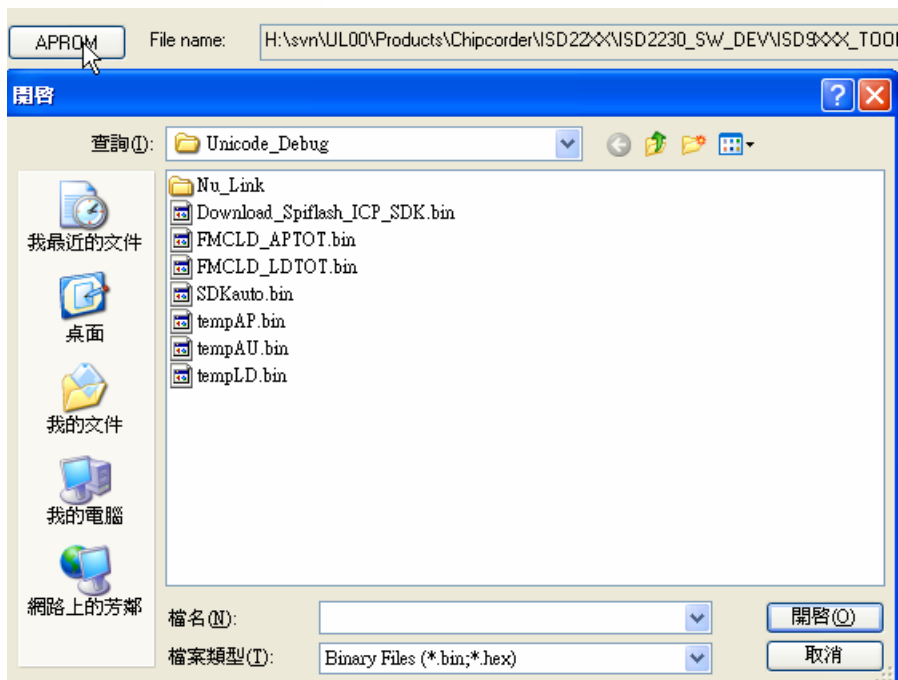
Program

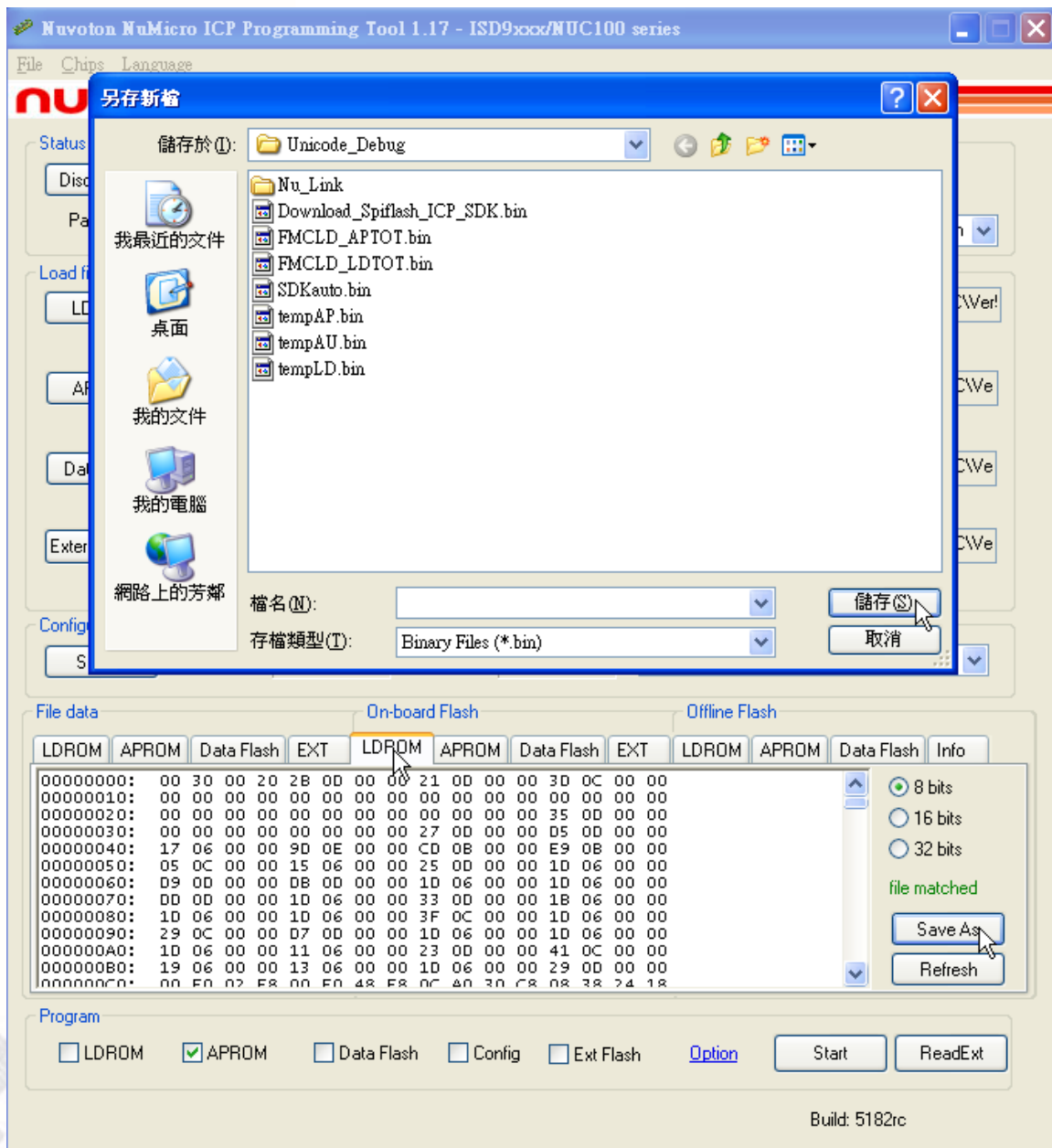
☒ LDR0M ☒ APROM ☐ Data Flash ☐ Config ☒ Ext Flash [Option](#) Start ReadExt

Build: 5182rc

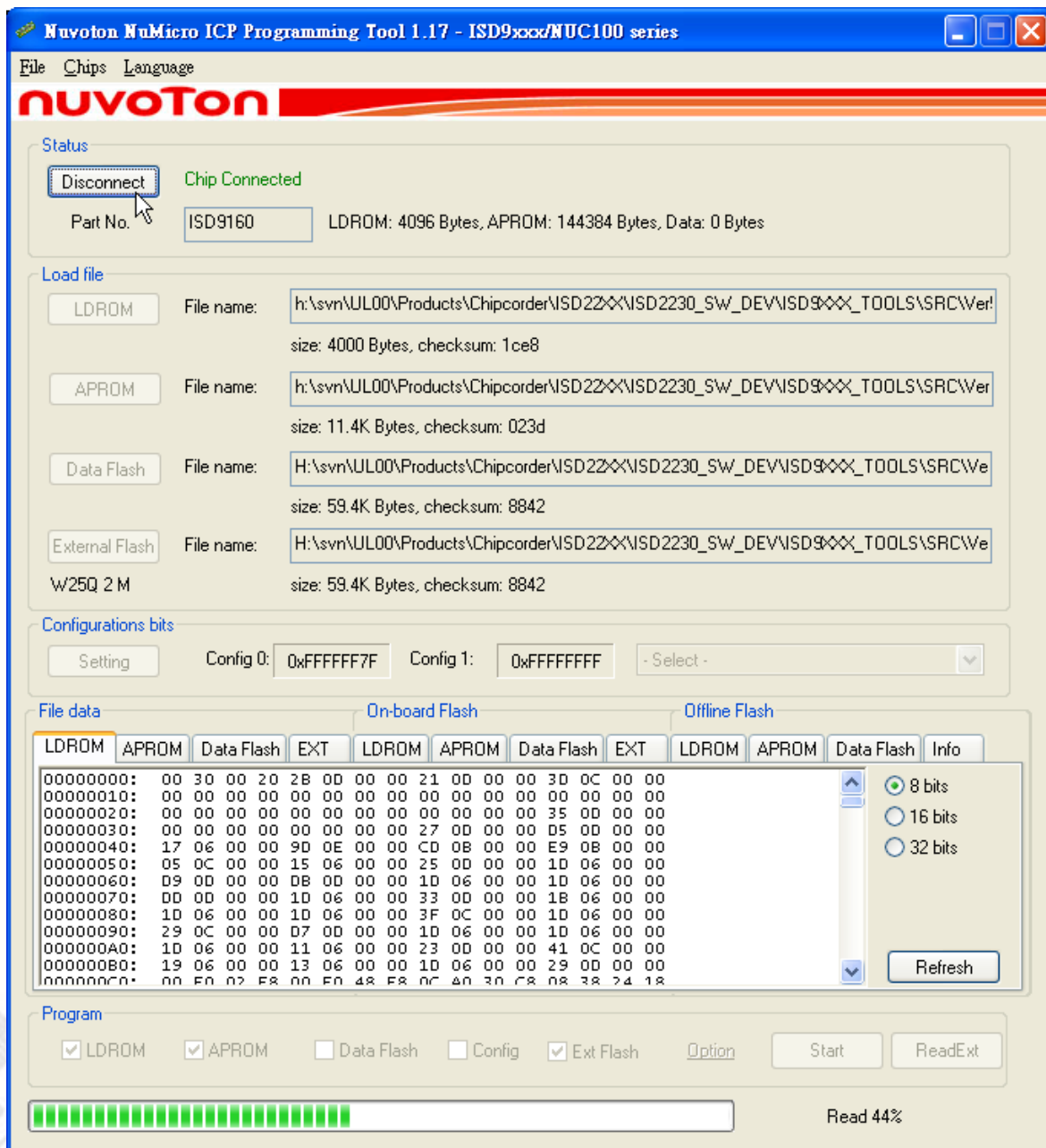








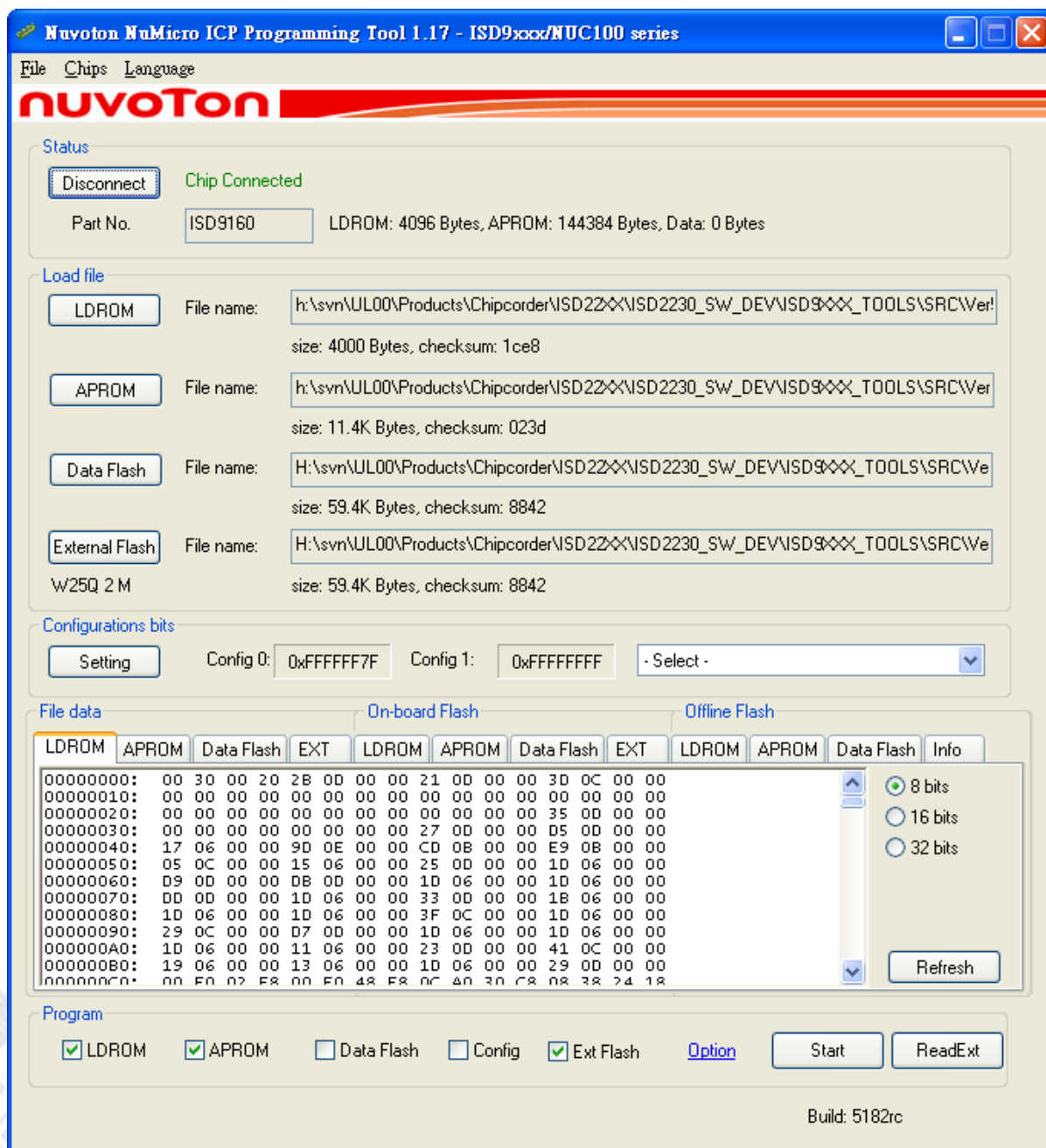
A.1. Connection and File Data Chip connection



Done

3-19

Publication Release Date: Jan. 2012



LDROM/APROM/Data Flash/External Flash

FMCLD_LDTOT.bin

Load file

LDRM File name: EV\ISD9xxx\TOOLS\Src\Ver5135\WinApp\ICPTool\Unicode_Release\FMCLD_LDTOT.bin
size: 4000 Bytes, checksum: 1ce8

APROM File name: EV\ISD9xxx\TOOLS\Src\Ver5135\WinApp\ICPTool\Unicode_Release\FMCLD_APTOT.bin
size: 9020 Bytes, checksum: 9683

Data Flash File name: SW_DEV\ISD9xxx\TOOLS\Src\Ver5135\WinApp\ICPTool\Unicode_Release\SDK\auto.bin
size: 18.3K Bytes, checksum: 03bf

External Flash File name: C:\TOOLS\Src\Ver5135\WinApp\ICPTool\Unicode_Debug\Download_Splash_ICP_SDK.bin
size: 3760 Bytes, checksum: 8c44

Configurations bits
Setting Config 0: 0xFFFFFFFF Config 1: 0xFFFFFFFF - Select -

File data

On-board Flash				Offline Flash			
LDRM	APROM	Data Flash	EXT	LDRM	APROM	Data Flash	EXT
00000740:	40 21 08 43 20 40 03 48 10 80 00 20 10 80 00 00						
00000750:	00 C0 00 50 81 88 FF FF F8 85 04 46 0E 4F 21 20						
00000760:	00 46 14 46 F8 40 12 60 7C 60 01 CD 88 60 00 F0						
00000770:	69 FA 38 69 01 28 FC D0 24 1D 38 68 36 1F 40 06						
00000780:	05 D5 38 68 40 21 08 43 38 60 04 48 F8 80 00 2E						
00000790:	EA 01 00 20 F8 80 00 00 C0 00 50 81 88 FF FF						
000007A0:	F3 85 FF 80 FF 80 83 80 01 25 AD 02 01 AE 2A 46						
000007B0:	31 46 00 10 FF F7 92 FF 00 20 FF F7 57 FF 03 27						
000007C0:	3F 05 38 46 FF F7 52 FF 0C 4C 00 28 0A 01 2A 46						
000007D0:	31 46 FF F7 C1 FF FF AB 38 46 99 68 FF F7 A4 FF						
000007E0:	00 28 04 00 20 46 7F 80 7F 80 05 80 F0 80 FF AB						
000007F0:	03 48 09 68 FF F7 98 FF E5 E7 00 00 31 88 FF FF						
00000800:	04 00 10 00 00 00 00 00 00 00 00 00 00 00 00						

Refresh

FMCLD_APTOT.bin

Load file

LDRM File name: EV\ISD9xxx\TOOLS\Src\Ver5135\WinApp\ICPTool\Unicode_Release\FMCLD_LDTOT.bin
size: 4000 Bytes, checksum: 1ce8

APROM File name: EV\ISD9xxx\TOOLS\Src\Ver5135\WinApp\ICPTool\Unicode_Release\FMCLD_APTOT.bin
size: 9020 Bytes, checksum: 9683

Data Flash File name: SW_DEV\ISD9xxx\TOOLS\Src\Ver5135\WinApp\ICPTool\Unicode_Release\SDK\auto.bin
size: 18.3K Bytes, checksum: 03bf

External Flash File name: C:\TOOLS\Src\Ver5135\WinApp\ICPTool\Unicode_Debug\Download_Splash_ICP_SDK.bin
size: 3760 Bytes, checksum: 8c44

Configurations bits
Setting Config 0: 0xFFFFFFFF Config 1: 0xFFFFFFFF - Select -

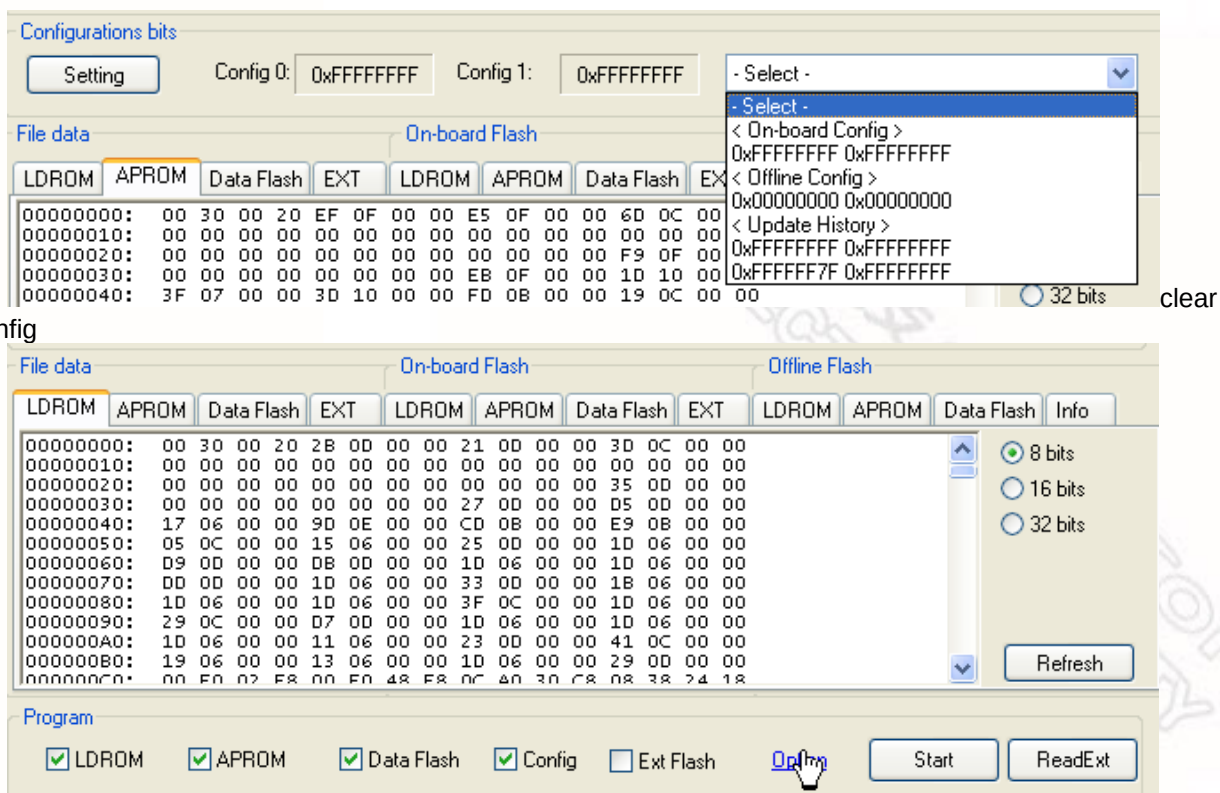
File data

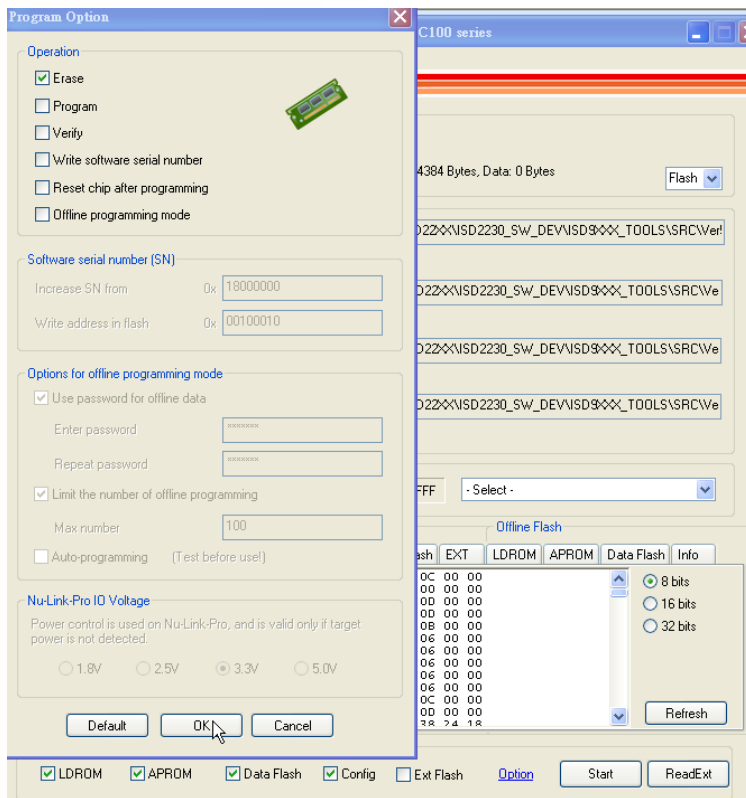
On-board Flash				Offline Flash			
LDRM	APROM	Data Flash	EXT	LDRM	APROM	Data Flash	EXT
00000000:	00 30 00 20 EF 0F 00 00 E5 0F 00 00 40 0C 00 00						
00000010:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00						
00000020:	00 00 00 00 00 00 00 00 00 00 00 00 F9 0F 00 00						
00000030:	00 00 00 00 00 00 00 00 E8 0F 00 00 10 10 00 00						
00000040:	3F 07 00 00 3D 10 00 00 F0 0B 00 00 19 0C 00 00						
00000050:	35 0C 00 00 3D 07 00 00 E9 0F 00 00 45 07 00 00						
00000060:	21 10 00 00 27 10 00 00 45 07 00 00 45 07 00 00						
00000070:	25 10 00 00 45 07 00 00 F7 0F 00 00 43 07 00 00						
00000080:	45 07 00 00 45 07 00 00 6F 0C 00 00 45 07 00 00						
00000090:	59 0C 00 00 3F 10 00 00 45 07 00 00 45 07 00 00						
000000A0:	45 07 00 00 39 07 00 00 E7 0F 00 00 71 0C 00 00						
000000B0:	41 07 00 00 3B 07 00 00 45 07 00 00 E0 0F 00 00						
000000C0:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00						

Refresh

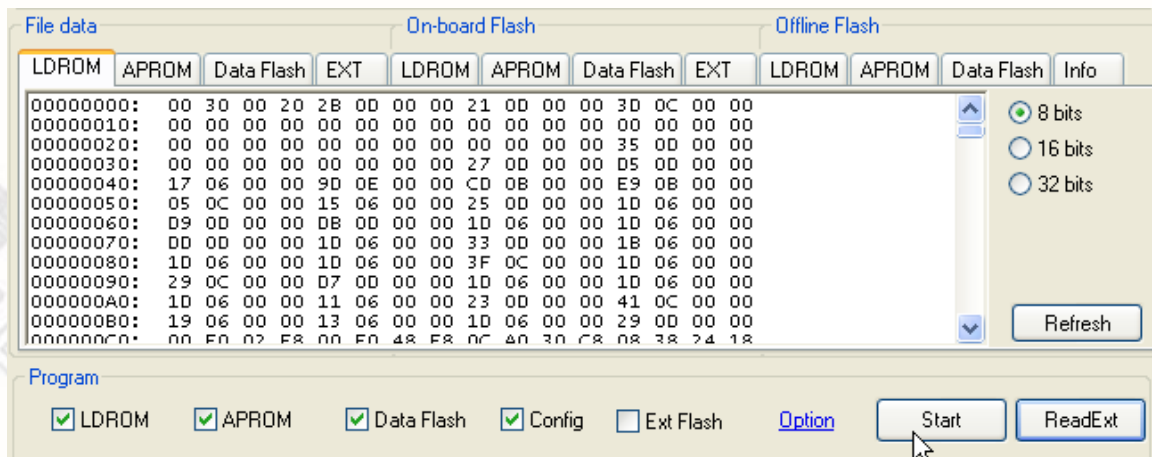
A.2. Start programming with UART

(1) Make sure if the On-board Config is

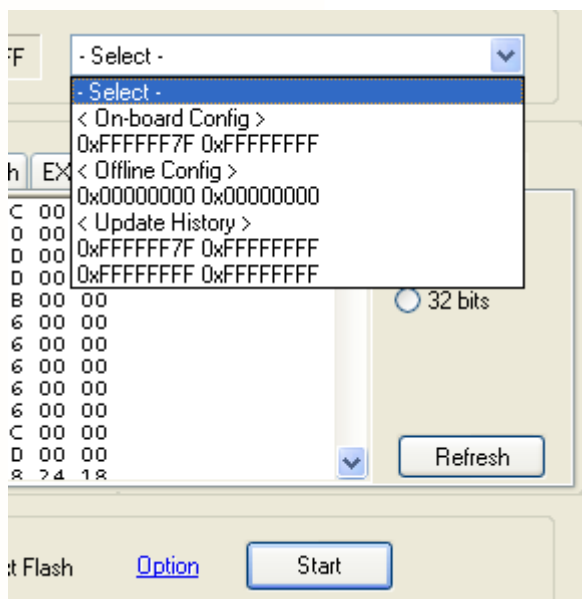




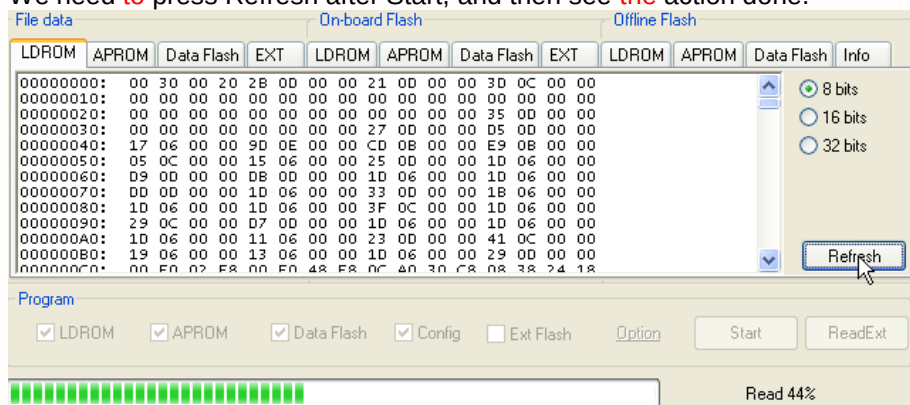
And press start



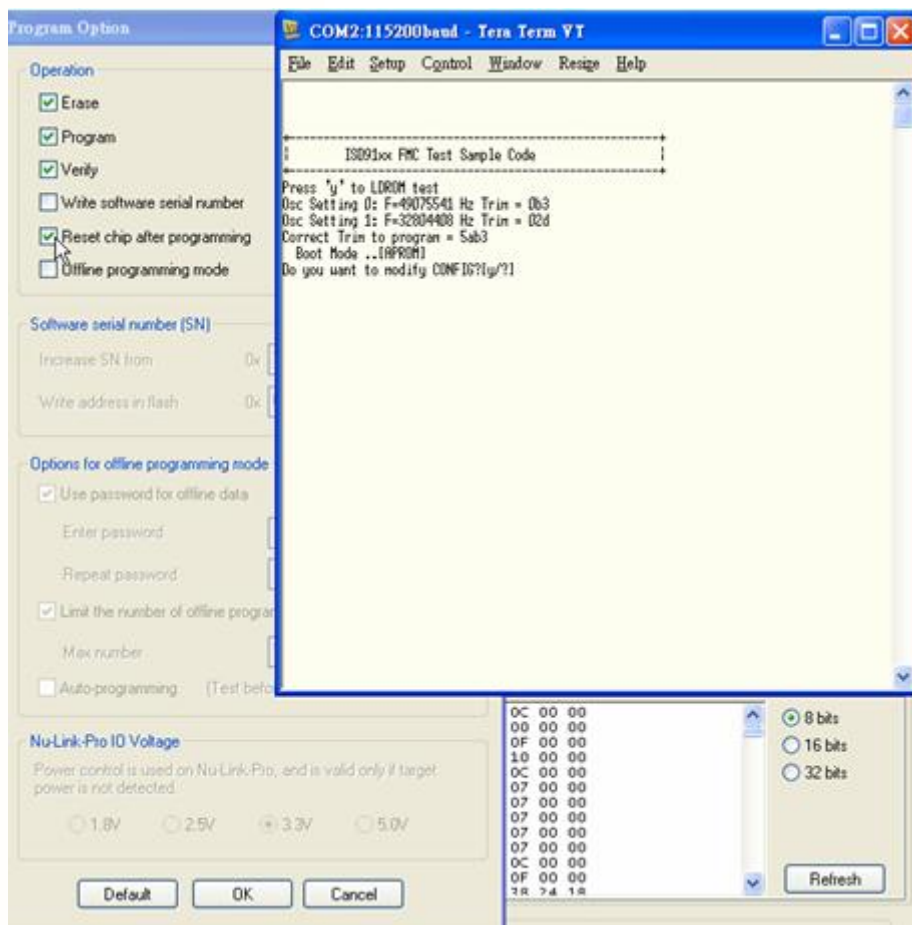
Warning!! When you see wrong config, first clear.



We need to press Refresh after Start, and then see the action done.

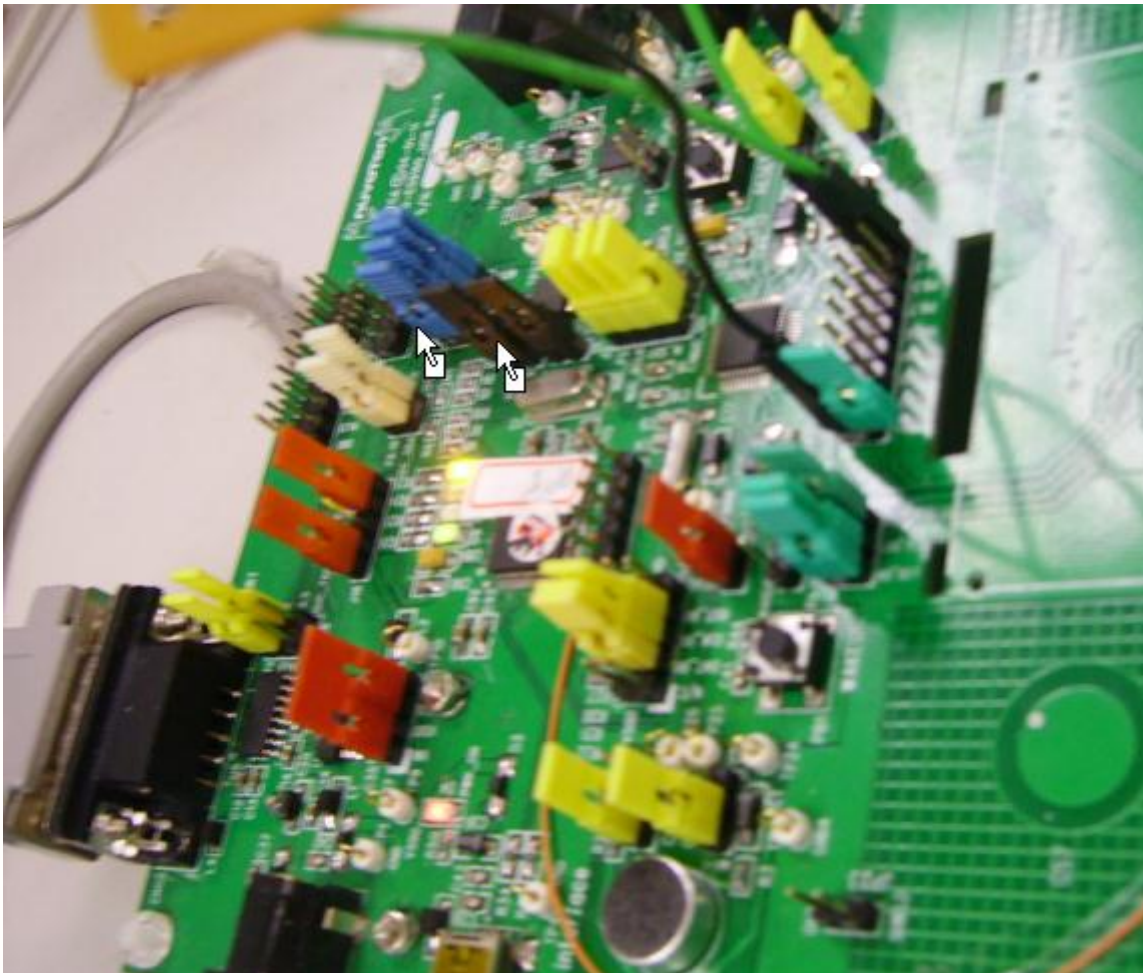


(2) UART with teraterm
Reset chip after programming



A.3. Start programming with flash

The following step shows writer procedure. This writer programs external flash. Add jumper for external flash or use a wire to program what you want to burn.

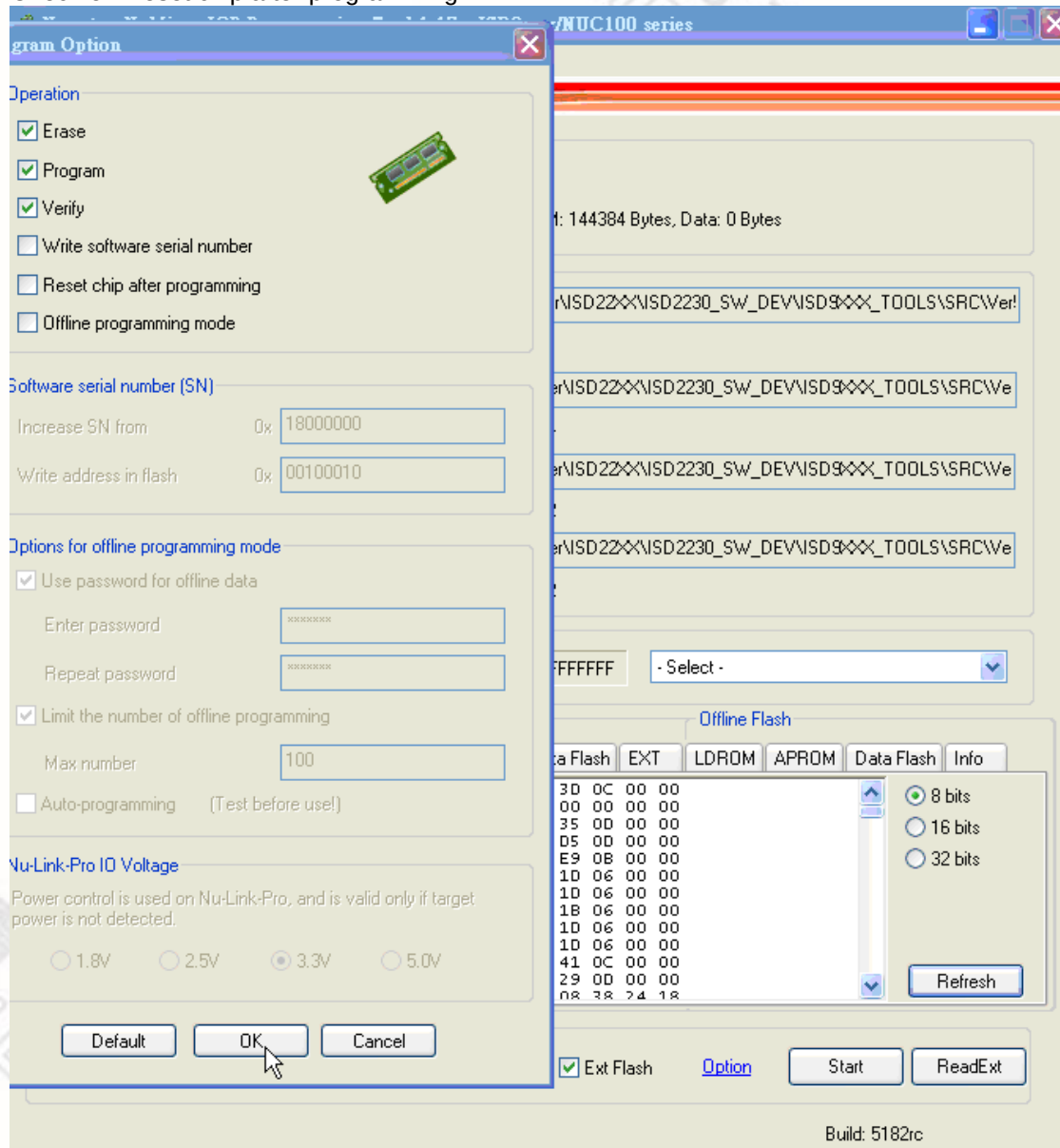


Select 1M.bin

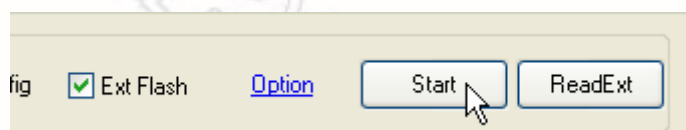
[Load file](#)

LDR0M	File name:	EV\ISD9xxx_TOOLS\Src\Ver5135\WinApp\ICPTool\Unicode_Release\FMCLD_LDTOT.bin
		size: 4000 Bytes, checksum: 1ce8
APROM	File name:	EV\ISD9xxx_TOOLS\Src\Ver5135\WinApp\ICPTool\Unicode_Release\FMDLC_APTOT.bin
		size: 9020 Bytes, checksum: 8683
Data Flash	File name:	_SW_DEV\ISD9xxx_TOOLS\Src\Ver5135\WinApp\ICPTool\Unicode_Release\SDKauto.bin
		size: 18.3K Bytes, checksum: 03bf
External Flash	File name:	2230_SW_DEV\ISD9xxx_TOOLS\Src\Ver5135\WinApp\ICPTool\Unicode_Release\1M.bin
		size: 1007.8K Bytes, checksum: 17da

Check off Reset chip after programming



And Press Start.



Pass 1:

Programming writer firmware Download_Spiflash_ICP_SDK.bin

Configurations bits

Setting Config 0: 0xFFFFFFFF Config 1: 0xFFFFFFFF - Select -

File data On-board Flash Offline Flash

LDROM	APROM	Data Flash	EXT	LDROM	APROM	Data Flash	EXT	LDROM	APROM	Data Flash	Ir
00000000:	00	30	00	20	28	00	00	00	21	00	00
00000010:	00	00	00	00	00	00	00	00	00	00	00
00000020:	00	00	00	00	00	00	00	00	00	00	00
00000030:	00	00	00	00	00	00	00	00	27	00	00
00000040:	17	06	00	00	90	0E	00	00	CD	0B	00
00000050:	05	0C	00	00	15	06	00	00	25	00	00
00000060:	09	0D	00	00	08	00	00	00	10	06	00
00000070:	00	00	00	00	10	06	00	00	33	00	00
00000080:	10	06	00	00	10	06	00	00	3F	0C	00
00000090:	29	0C	00	00	07	00	00	00	10	06	00
000000A0:	10	06	00	00	11	06	00	00	23	00	00
000000B0:	19	06	00	00	13	06	00	00	10	06	00
000000C0:	00	F0	02	F8	00	F0	48	F8	0C	40	30
000000D0:	00	F0	02	F8	00	F0	48	F8	0C	40	30

8 bits
16 bits
32 bits

Ref

Program

☒ LDROM ☒ APROM ☐ Data Flash ☐ Config ☒ Ext Flash [Option](#) [Start](#) [Read](#)

 Erase 25%

Pass 2: Write External Flash

File data On-board Flash Offline Flash

LDROM	APROM	Data Flash	EXT	LDROM	APROM	Data Flash	EXT	LDROM	APROM	Data Flash	Info
00000000:	00	30	00	20	28	00	00	00	21	00	00
00000010:	00	00	00	00	00	00	00	00	00	00	00
00000020:	00	00	00	00	00	00	00	00	00	00	00
00000030:	00	00	00	00	00	00	00	00	27	00	00
00000040:	17	06	00	00	90	0E	00	00	CD	0B	00
00000050:	05	0C	00	00	15	06	00	00	25	00	00
00000060:	09	0D	00	00	08	00	00	00	10	06	00
00000070:	00	00	00	00	10	06	00	00	33	00	00
00000080:	10	06	00	00	10	06	00	00	3F	0C	00
00000090:	29	0C	00	00	07	00	00	00	10	06	00
000000A0:	10	06	00	00	11	06	00	00	23	00	00
000000B0:	19	06	00	00	13	06	00	00	10	06	00
000000C0:	00	F0	02	F8	00	F0	48	F8	0C	40	30
000000D0:	00	F0	02	F8	00	F0	48	F8	0C	40	30

8 bits
16 bits
32 bits

Refresh

Program

☒ LDROM ☒ APROM ☐ Data Flash ☐ Config ☒ Ext Flash [Option](#) [Start](#) [ReadExt](#)

 Write external 11%

If Build button is still on, please disconnect, try again.

Pass 3:

Read back if verify.

And check if verification is ok, if ok, no message.

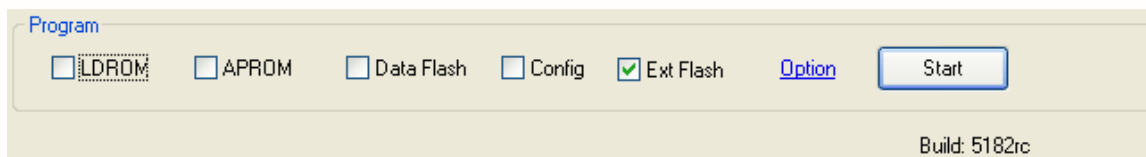
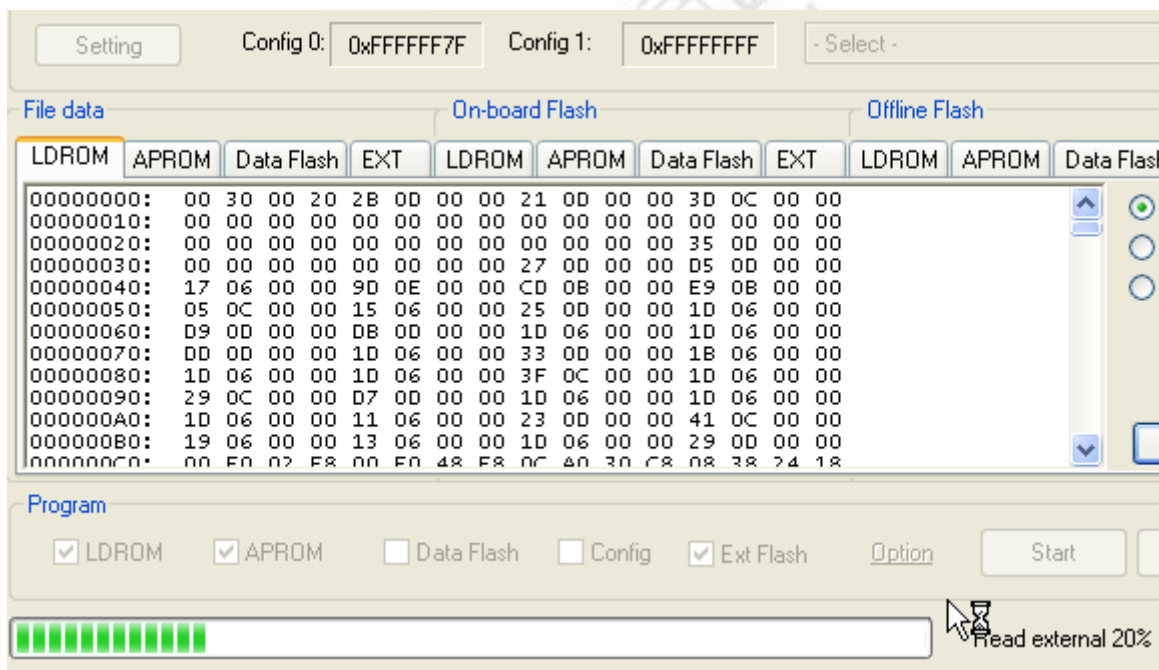
Pass 4:

Normal operation for LDROM/APROM/Data Flash/Config.

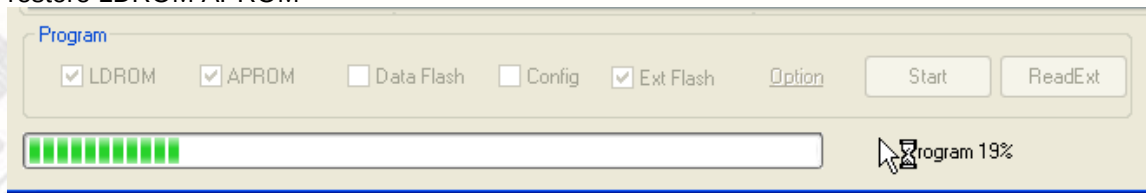
If none, stop

3-28

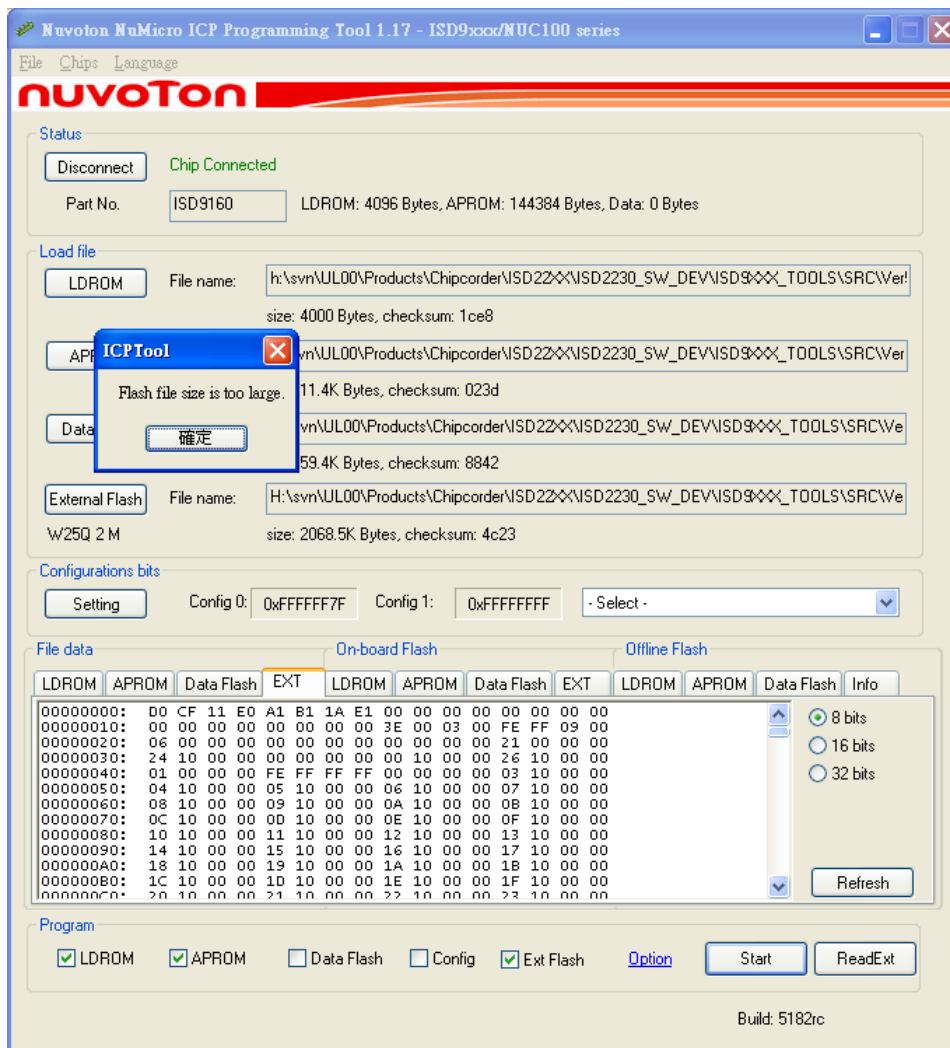
Publication Release Date: Jan. 2012



Pass5:
restore LDROM APROM



Warning for the file being too big.



A.4. Start programming with LDROM

Pass 1:

Select Load file FMCLD_LDTOT.bin to LDROM, FMDLC_APTOT.bin

nuvoTon

Status

Disconnect Chip Connected

Part No. ISD9160 LDR0M: 4096 Bytes, APROM: 144384 Bytes, Data: 0 Bytes

Load file

LDR0M File name: EV\ISD9xxx_TOOLS\SRC\Ver5135\WinApp\ICPTool\Unicode_Release\FMCLD_LDT0T.bin
size: 4000 Bytes, checksum: 1ce8

APROM File name: EV\ISD9xxx_TOOLS\SRC\Ver5135\WinApp\ICPTool\Unicode_Release\FMDLC_APT0T.bin
size: 9020 Bytes, checksum: 8683

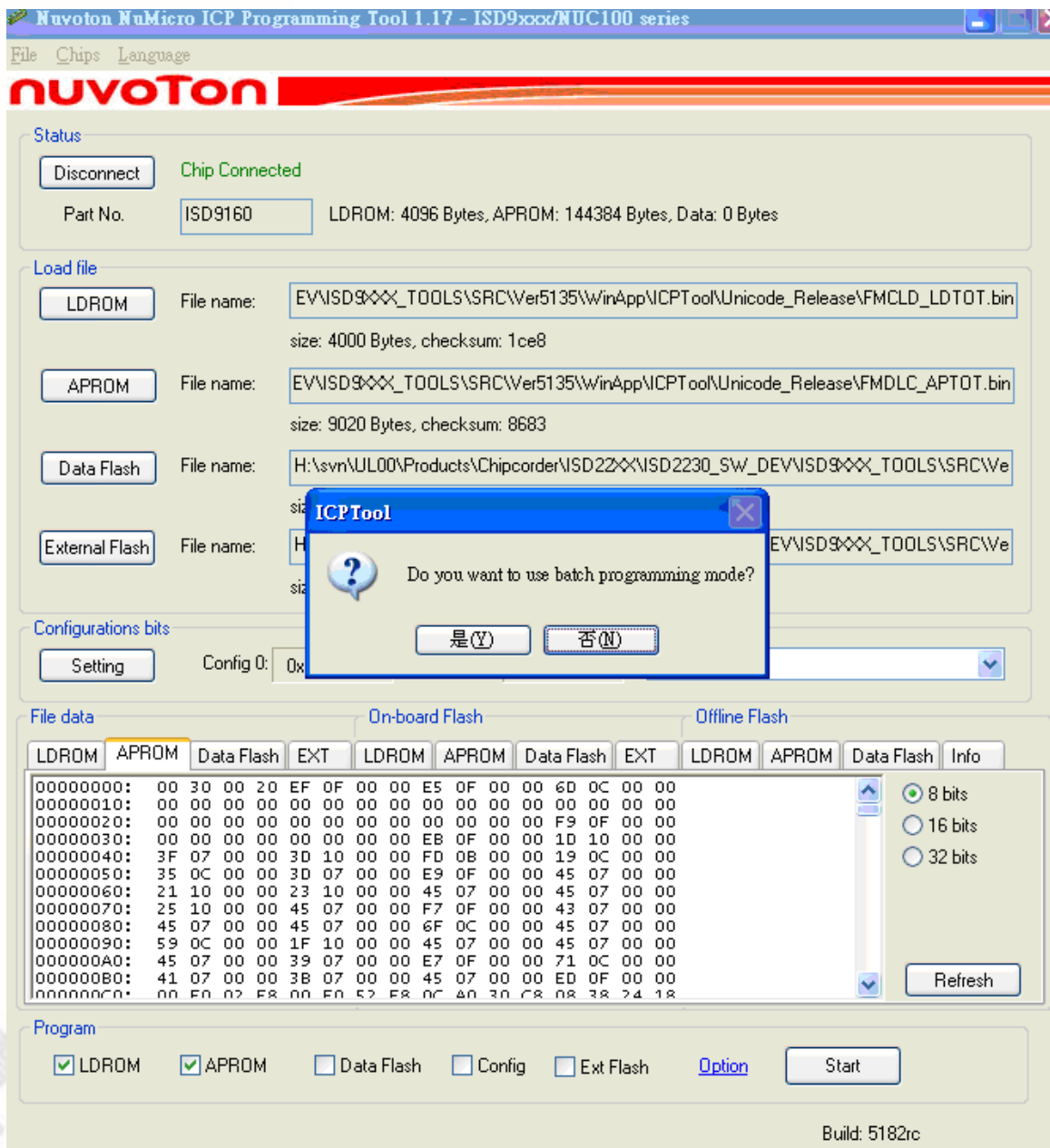
Data Flash File name: H:\svn\UL00\Products\Chipcorder\ISD22xx\ISD2230_SW_DEV\ISD9xxx_TOOLS\SRC\Ve
size: 18.3K Bytes, checksum: 03bf

External Flash File name: H:\svn\UL00\Products\Chipcorder\ISD22xx\ISD2230_SW_DEV\ISD9xxx_TOOLS\SRC\Ve
size: 1007.8K Bytes, checksum: 17da

Configurations bits

Setting Config 0: 0xFFFFFFFF Config 1: 0xFFFFFFFF - Select -

Pass 2:



3. Test program

```

+-----+
|   ISD91xx FMC Test Sample Code   |
+-----+
Press 'y' to LDROM test
Osc Setting 0: F=49079182 Hz Trim = 0b3
Osc Setting 1: F=32818972 Hz Trim = 02d
Correct Trim to program = 5ab3
  Boot Mode ..[APROM]
Do you want to modify CONFIG?[y/?]
Old:[0xffffffff],[0xffffffff].
Config1 --> [1]:0x4000,[2]:0x6000,[3]:0x8000,[4]:0x10000

New:[0xffffffff],[0x00008000].

Go Back to AP:[y/?]

+-----+
|   ISD91xx FMC Test Sample Code   |
+-----+
Press 'y' to LDROM test
Osc Setting 0: F=49101027 Hz Trim = 0b3
Osc Setting 1: F=32829895 Hz Trim = 02d
Correct Trim to program = 5ab3
  Boot Mode ..[APROM]
Do you want to modify CONFIG?[y/?]

```

4.Refresh

Configurations bits

Setting Config 0: 0xFFFFFFFF Config 1: 0xFFFFFFFF

File data On-board Flash

LDROM	APROM	Data Flash	EXT	LDROM	APROM	Data Flash	EXT
00000000:	00 30 00 20 EF 0F 00 00 E5 0F 00 00 6D 0C 00						
00000010:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00						
00000020:	00 00 00 00 00 00 00 00 00 00 00 00 F9 0F 00						
00000030:	00 00 00 00 00 00 00 00 EB 0F 00 00 1D 10 00						
00000040:	3F 07 00 00 3D 10 00 00 FD 0B 00 00 19 0C 00						

32 bits

- Select -
 < On-board Config >
 0xFFFFFFFF 0x00008000
 < Offline Config >
 0x00000000 0x00000000
 < Update History >
 0xFFFFFFFF 0xFFFFFFFF
 0xFFFFFFFF7F 0xFFFFFFFF

A.5. Read back tempAU.bin

1. Press ReadExt

Status

Chip Connected

Part No. LDRM: 4096 Bytes, APROM: 144384 Bytes, Data: 0 Bytes

Load file

File name: size: 4000 Bytes, checksum: 1ce8

File name: size: 11.3K Bytes, checksum: d9e4

File name: size: 59.4K Bytes, checksum: 8842

File name: size: 59.4K Bytes, checksum: 8842

Configurations bits

Config 0: Config 1:

File data

On-board Flash				Offline Flash			
LDRM	APROM	Data Flash	EXT	LDRM	APROM	Data Flash	EXT
00000000:	00 30 00 20	2B 0D 00 00	21 0D 00 00	3D 0C 00 00			
00000010:	00 00 00 00	00 00 00 00	00 00 00 00	00 00 00 00			
00000020:	00 00 00 00	00 00 00 00	00 00 00 00	35 0D 00 00			
00000030:	00 00 00 00	00 00 00 00	00 00 00 00	05 0D 00 00			
00000040:	17 06 00 00	9D 0E 00 00	CD 0B 00 00	E9 08 00 00			
00000050:	05 0C 00 00	15 06 00 00	25 0D 00 00	1D 06 00 00			
00000060:	09 0D 00 00	0B 00 00 00	1D 06 00 00	1D 06 00 00			
00000070:	0D 0D 00 00	1D 06 00 00	33 0D 00 00	1B 06 00 00			
00000080:	1D 06 00 00	1D 06 00 00	3F 0C 00 00	1D 06 00 00			
00000090:	29 0C 00 00	D7 0D 00 00	1D 06 00 00	1D 06 00 00			
000000A0:	1D 06 00 00	11 06 00 00	23 0D 00 00	41 0C 00 00			
000000B0:	19 06 00 00	13 06 00 00	1D 06 00 00	29 0D 00 00			
000000C0:	00 F0 02 F8	00 F0 48 F8	0C 40 30 C8	08 38 74 18			

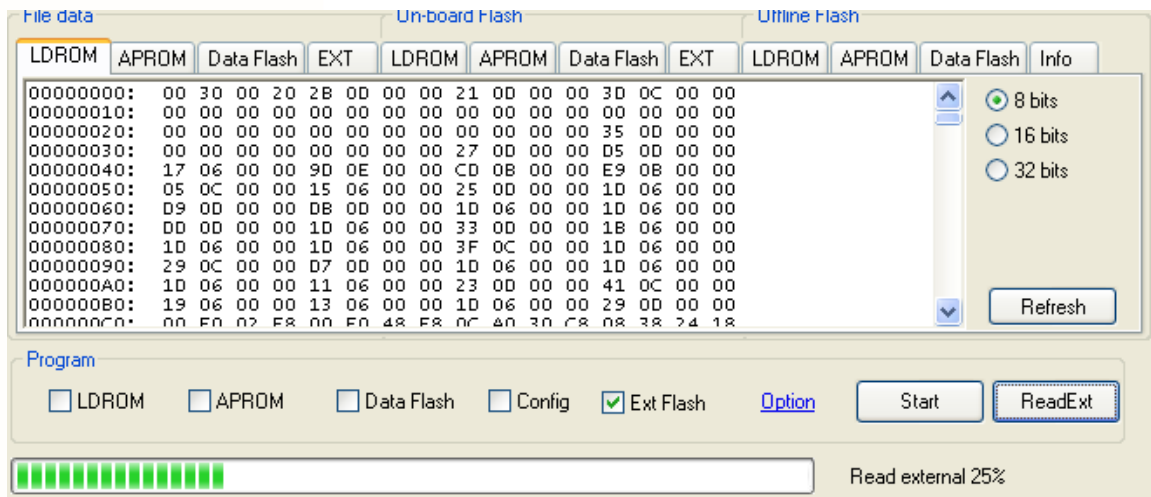
8 bits
16 bits
32 bits

Program

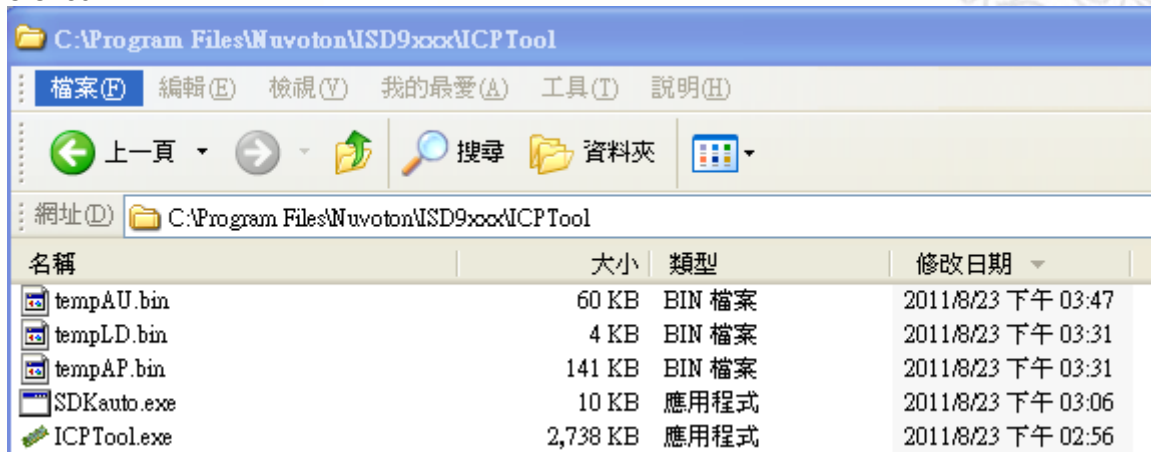
☐ LDRM ☐ APROM ☐ Data Flash ☐ Config ☒ Ext Flash

Build: 5182rc

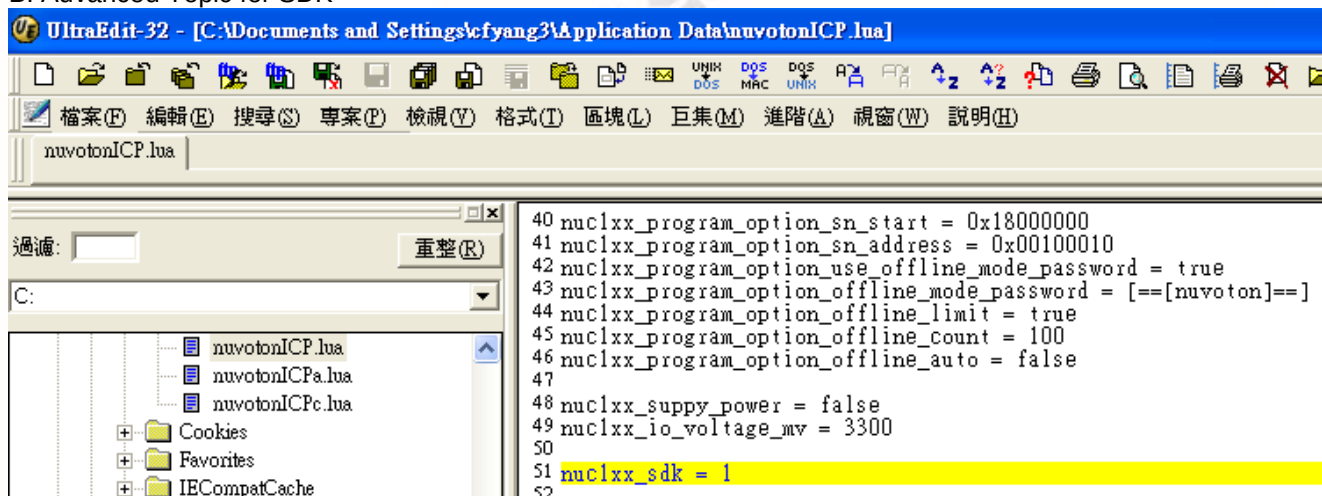
2. Pass



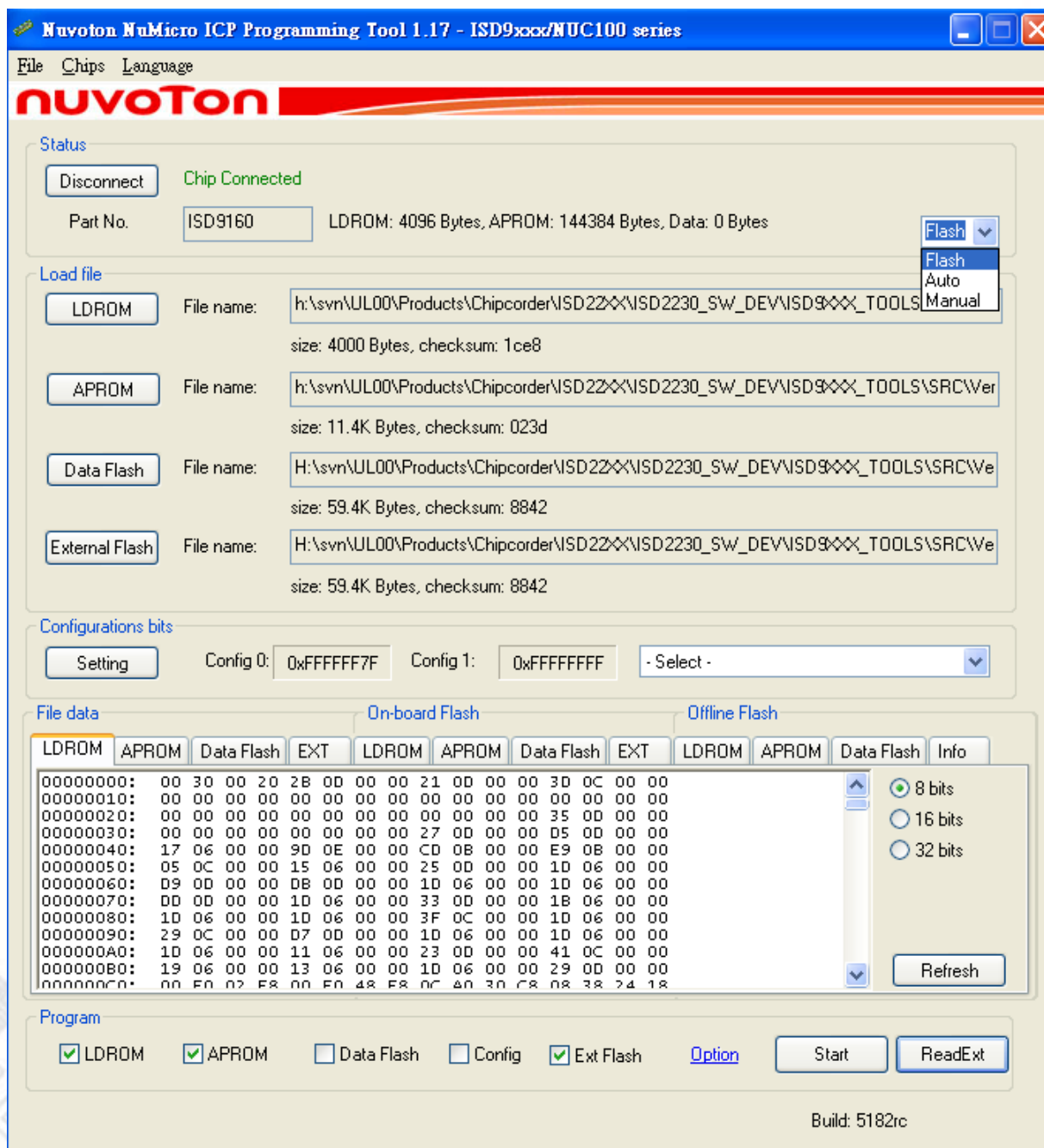
3.Check



B. Advanced Topic for SDK



Set nuc1xx_sdk = 1



Firmware code and named: SDKauto.bin

Application named: ADKauto.exe

Sample codes:

SDKAutoAlpha0.1.zip / SDKAutoEx3.zip or

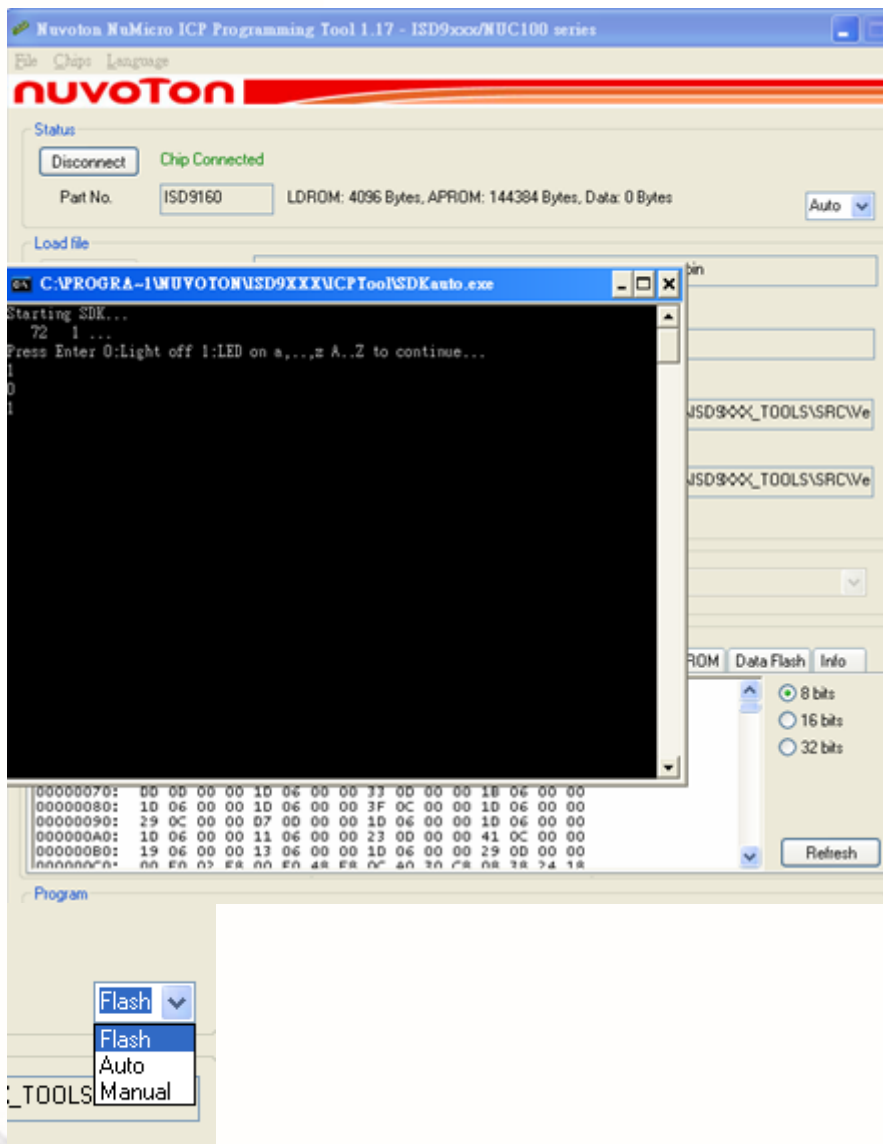
ISD9xxx\ISD9xxxSERIESBSP\CMSIS_V1.04.006\ISD9xxxSeriesBSP\NuvotonPlatform_Keil\

Sample\QuasHost\Download_Spiflash_ICP_SDK

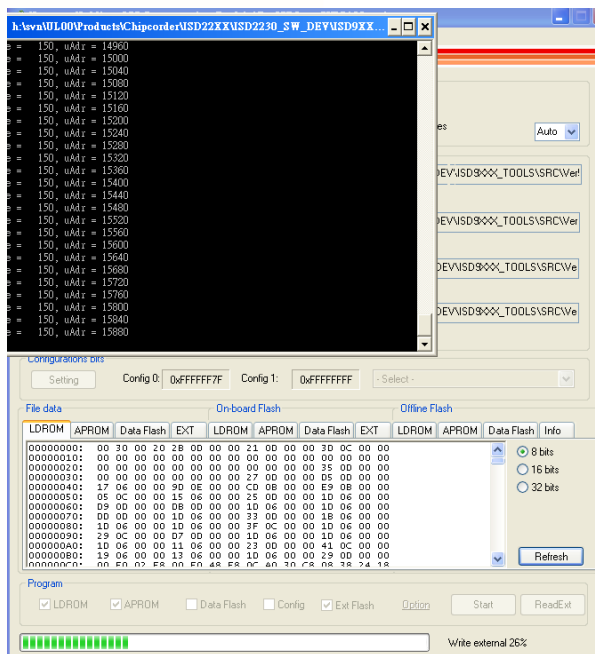
LED light on, 0 Light off

```
case OP_CODE_SET_DATA:
    if(au8Wbuf[0]=='1') isLED=1;
    else
        if(au8Wbuf[0]=='0') isLED=0;
    vOpcode = OP_CODE_AVAIL;
```

Example : SDKAutoEx3.zip /QuasHost\SDK0_Ex3
 SDKAuto.exe <- - -> SDKauto.bin in the location of ICPTool



Or SDKAutoAlpha0.1.zip / SDK0_Ex , Download_Spiflash_ICP_SDK



Structure

1. Using 60 bytes array for read, 48 bytes to write.

```
#ifndef V6M_MAX_READ_BLOCK
#define V6M_MAX_READ_BLOCK    60
#endif
```

```
#ifndef V6M_MAX_WRITE_BLOCK
#define V6M_MAX_WRITE_BLOCK    48
#endif
```

SDK app -> share memory - ->

^

|

ICPTool(as TrayIcon) - -> ICE - -> SDK firmware

SDK <-- share memory - ->

^

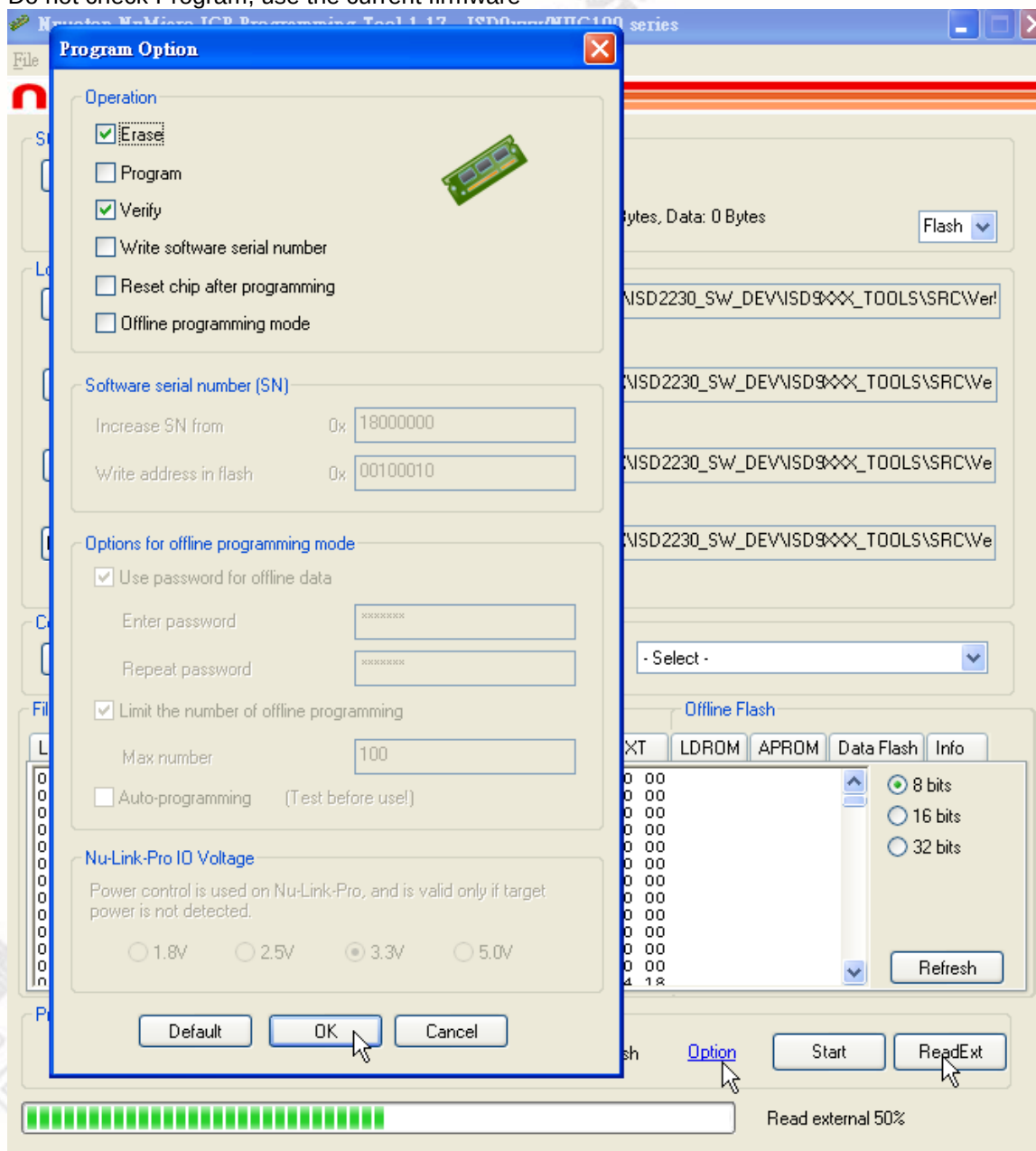
|

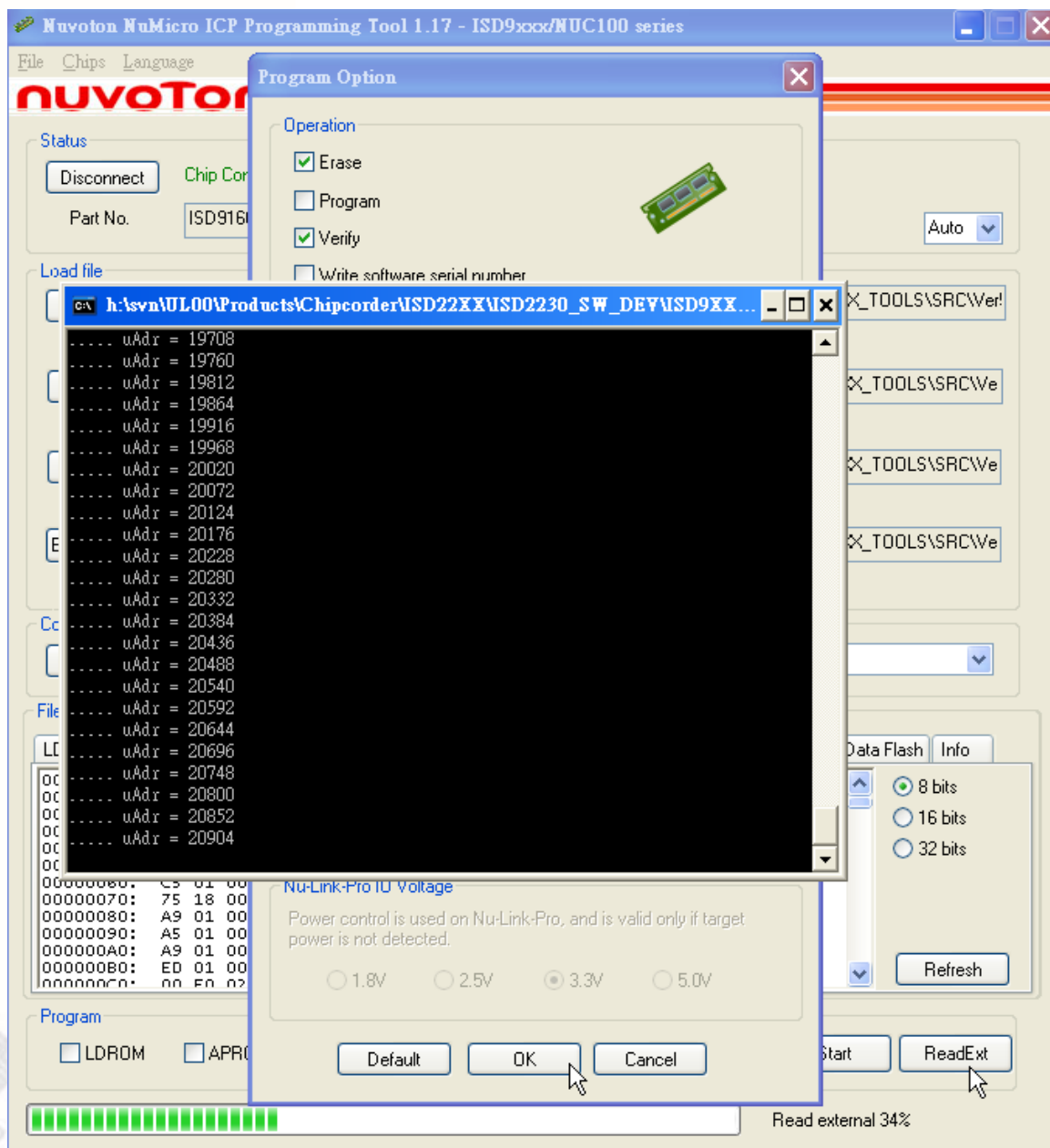
∇

Pulling
ICPTool

Direct test

Do not check Program, use the current firmware





ICPTool.exe sharedMemory->opcode = OPCODE_TRAY;



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4. Revision History

Version	Date	Author	Description
	Jan 13, 2012	CFYang3	• Grammar revision.
	Aug. 29, 2011	CFYang3	• ReadEXT.
V1.17.5182	Aug. 17, 2011	CFYang3	• Created.

Important Notice

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