CODA User Guide

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Document revision history

Revision	Date	Description
1.0	10 June 2020	Initial release
2.0	10 Oct 2020	Add Windows CODA
3.0	28 Sep	Update Document

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Lists of tables and figures

1. Introduction

This section is to describe how to use CODA in Win or MACOS for MT2821/MT2822/AB1565/AB1568, including the following parts:

- Preparation
- Command usage: Download, format, readback, readback OTP, write OTP

2. Preparation

WIN CODA

Win CODA contains the below files and folders, as figure 1:

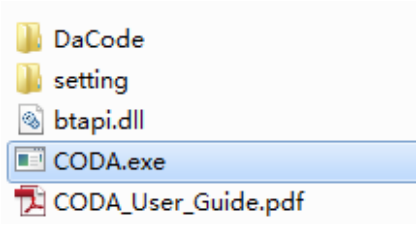

Figure 1. Win CODA

1) CODA.exe: the executable file of the tool.
2) Btapi.dll: tool dynamic library.
3) DaCode: contain the MT2822 download agent(DA)
4) Setting: contain the XML files that tool need

MAC CODA

Mac CODA contains the below files and folders, as figure 1:

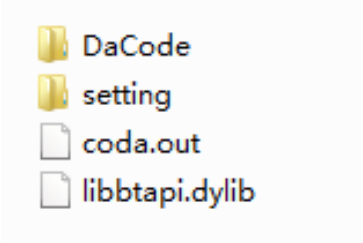

Figure 2. Mac CODA

1) coda.out: the executable file of the tool.
2) libbtapi.dylib: tool dynamic library.
3) DaCode: contain the MT2822 download agent(DA)
4) Setting: contain the XML files that tool need

Now, we will enter the tool environment preparation:

- Plug in the UART cable, then input command: **ls /dev**, the information shows below, you can find **tty.usbserial-DO01YPF4** added, ad figure 2:

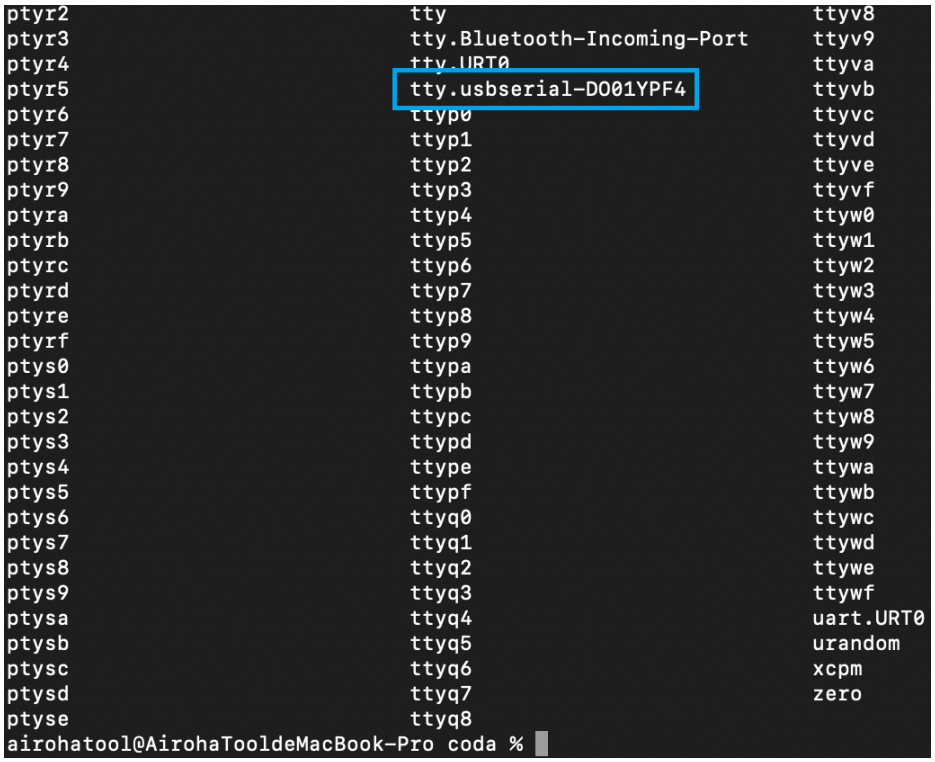

Figure 3. MAC USB port

3. Command

1. Format:

Enter the coda path, input the total format command(**After input the command, please reboot your IC**), then the format progress is going.

```
[airohatool@AirohaTooldeMacBook-Pro btapi_sdk_mac_release % ./coda.out --UART /dev/cu.usbserial-DO01YXGA -f
Press reset button to download DA
DA version: 1.0.5
Format flash...address: 0x8000000, length: 0x1000000
<Format PROGRESS> 100%
Done!
```

Figure 4. Mac total format

```
E:\QT_UI\version\Windows\AIROHA_FLASH_TOOL_V1.0.1_For68_20201020>CODA.exe --UART COM26 -f
Please reboot chip:
DA version: 1.1.0
<Format PROGRESS> 100%
Done!
```

Figure 5. Win format by UART

```
E:\QT_UI\version\Windows\AIROHA_FLASH_TOOL_V1.0.1_For68_20201020>CODA.exe -a -f
Search new COM port...
ShieldIOLib::SearchNewComport(): Get COM12
DA version: 1.1.0
<Format PROGRESS> 100%
Done!
```

Figure 6. Win format by USB

Besides, you can input the part format command as below, you need input erase address and erase length (**After input the command, please reboot your IC**), pay attention to input hex data.

```
[airohatool@AirohaTooldeMacBook-Pro btapi_sdk_mac_release % ./coda.out --UART /dev/cu.usbserial-DO01YXGA -f --erase_addr
0x8000000 --erase_len 0x1000
Press reset button to download DA
DA version: 1.0.5
Format flash...address: 0x8000000, length: 0x1000
<Format PROGRESS> 100%
Done!
```

Figure 7. Mac part format

```
E:\QT_UI\version\Windows\CODA_V1.0.2_20201020(AB1565_AB1568)>CODA.exe --UART COM26 -f --erase_addr 0x8000000 --erase_len 0x1000
Please reboot chip:
DA version: 1.1.0
<Format PROGRESS> 100%
Done!
```

Figure 8. Win manual format by UART

```
E:\QT_UI\version\Windows\CODA_V1.0.2_20201020(AB1565_AB1568)>CODA.exe -a -f --erase_addr 0x8000000 --erase_len 0x1000
Search new COM port...
ShieldIOLib::SearchNewComport(): Get COM23
DA version: 1.1.0
<Format PROGRESS> 100%
Done!
```

Figure 9. Win manual format by USB

2. Download

Enter the coda path, then prepare your load (contain flash_download.cfg), then input the download command as below(**After input the command, please reboot your IC**), then the download progress is going.

```
[airohatool@AirohaTooldeMacBook-Pro btapi_sdk_mac_release % ./coda.out --UART /dev/cu.usbserial-DO01YXGA -d ./load/flash_
download.cfg
Press reset button to download DA
DA version: 1.0.5
<Download PROGRESS> 100%
Done!
```

Figure** 10. **Mac download FW

```
E:\QT_UI\version\Windows\AIROHA_FLASH_TOOL_V1.0.1_For68_20201020>CODA.exe --UART COM26 -d D:\Project\Flash_Tool\LOAD\65_evk_download\flash_download.cfg
Please reboot chip:
DA version: 1.1.0
<Download PROGRESS> 100%
Done!
```

Figure 11. Win download by UART

```
E:\QT_UI\version\Windows\AIROHA_FLASH_TOOL_V1.0.1_For68_20201020>CODA.exe -a -d D:\Project\Flash_Tool\LOAD\65_evk_download\flash_download.cfg
Search new COM port...
ShieldIOLib::SearchNewComport(): Get COM12
DA version: 1.1.0
<Download PROGRESS> 100%
Done!
```

Figure 12. Win download by USB

3. Readback

Enter the coda path, input the total readback command as below(**After input the command, please reboot your IC**), then the readback progress is going.

```
airohatool@AirohaTooldeMacBook-Pro btapi_sdk_mac_release % ./coda.out --UART /dev/cu.usbserial-DO01YXGA -r ./read.bin
Press reset button to download DA
DA version: 1.0.5
<Readback PROGRESS> 100%
Done!
```

Figure 13. Mac total readback

```
E:\QT_UI\version\Windows\AIROHA_FLASH_TOOL_V1.0.1_For68_20201020>CODA.exe --UART COM26 -r readback.bin
Please reboot chip:
DA version: 1.1.0
<Readback PROGRESS> 100%
Done!
```

Figure 14. Win readback by UART

```
E:\QT_UI\version\Windows\AIROHA_FLASH_TOOL_V1.0.1_For68_20201020>CODA.exe -a -r readback.bin
Search new COM port...
ShieldIOLib::SearchNewComport(): Get COM12
DA version: 1.1.0
<Readback PROGRESS> 100%
Done!
```

Figure 15. Win readback by USB

Besides, you can input the part readback command as below, you need input readback address and readback length (**After input the command, please reboot your IC**), pay attention to input hex data.

```
[airohatool@AirohaTooldeMacBook-Pro btapi_sdk_mac_release % ./coda.out --UART /dev/cu.usbserial-DO01YXGA -r ./read.bin --
read_addr 0x8300000 --read_len 0x1000
Press reset button to download DA
DA version: 1.0.5
<Readback PROGRESS> 100%
Done!
```

Figure 16. Mac part readback

```
E:\QT_UI\version\Windows\CODA_V1.0.2_20201020(AB1565_AB1568)>CODA.exe --UART COM26 -r readback.bin --read_addr 0x8300000 --read_len 0x1000
Please reboot chip:
DA version: 1.1.0
<Readback PROGRESS> 100%
Done!
```

Figure 17. Win manual readback by UART

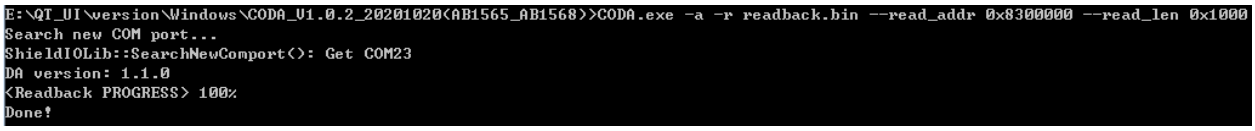

Figure 18. Win manual readback by USB

4. Readback OTP

Enter the coda path, input the readback OTP command as below, you need input start address and path where you want to save bin file (**After input the command, please reboot your IC**), pay attention to input hex data.

Of course, you can operate the command in Win, ex: CODA.exe --UART COM26 -ro otp.bin --otp_read_addr 0x0 --otp_read_len 0x300

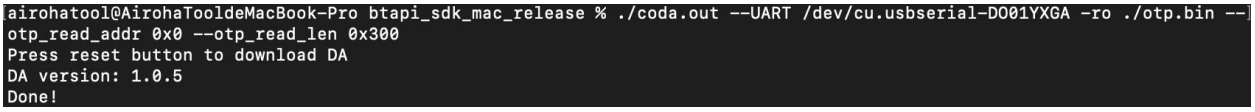

Figure 19. Mac Readback OTP

5. Write OTP

Enter the coda path, input the write OTP command, you need input start address and bin file which you want to write(**After input the command, please reboot your IC**), pay attention to input hex data .

Of course, you can operate the command in Win, ex: CODA.exe --UART COM26 -wo otp.bin --otp_read_addr 0x0

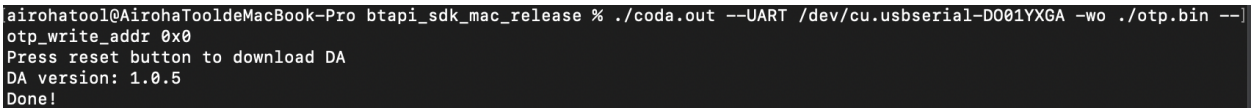

Figure 20. Mac Write OTP

6. Efuse

1) Only readback efuse(include security items)

CODA.exe --UART COM26 -re Readback.txt -s

2) Only write efuse(include security items)

CODA.exe --UART COM26 -we MT2822.txt -s

3) Write efuse then readback efuse(include security items)

CODA.exe --UART COM26 -we MT2822.txt -re Readback.txt -s

4. Terms and definitions