

SW356X Software Application Guide

1. Introduction

This document describes the SW356X software application guide. The chapter “debug and firmware upgrade” describes how to debug in Keil IDE, and how to upgrade firmware; The chapter “applications” describes the knowledge of secondary software development.

2. Debug and Firmware Upgrade

- 1、The Keil IDE is used with v6.x C-language compiler supported for secondary development; The Jlink or STlink debug tools can be used for on circuit debugger while SWD (GPIO6 SWD_CLK, GPIO7 SWD_DIO and GND Pins) connected; **Please note that do not use Keil to program firmware at target board;**
- 2、Firmware Upgrade
 - 1) Using Keil to build the firmware binary file(*.bin);
 - 2) Connect “MCU Firmware Update Toolkit” as Figure-3 to PC USB port; A new UART device will be created which can be found at device management, e.g. COM5;
 - 3) Run tool “SW356x_Bin_Tool_Release_V1.6.3”as Figure-1 below, click “Open Bin” to select the generated firmware file in step 1;
 - a) Select desired “Software Version” accordingly e.g. SW3566H;
 - b) Click “Start” to generate a target board “Bin” file with checksum information of filename;
 - c) Click “Download”, the UART download window as Figure-2 will be prompted; Click “Open UART” to Enable UART communication, then Click “Open Upgrade File” to choose the target board “Bin” file which is generated in step b).
 - d) Click “Start” to download the firmware to “MCU Firmware Update Toolkit”;
 - 4) Connect “MCU Firmware Update Toolkit” to target board, press “Button” to download firmware, the Blue LED will be ON while success firmware downloaded; **Please note that don't power up target board.**

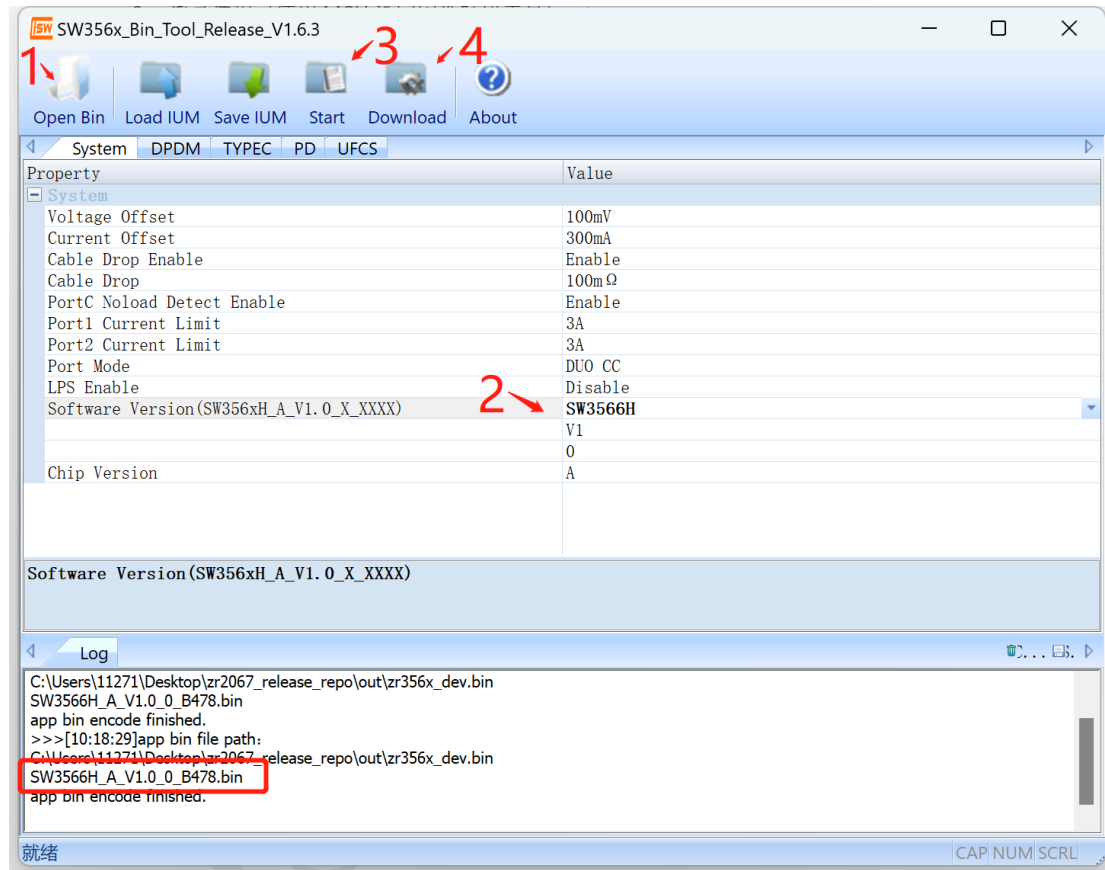


Figure-1

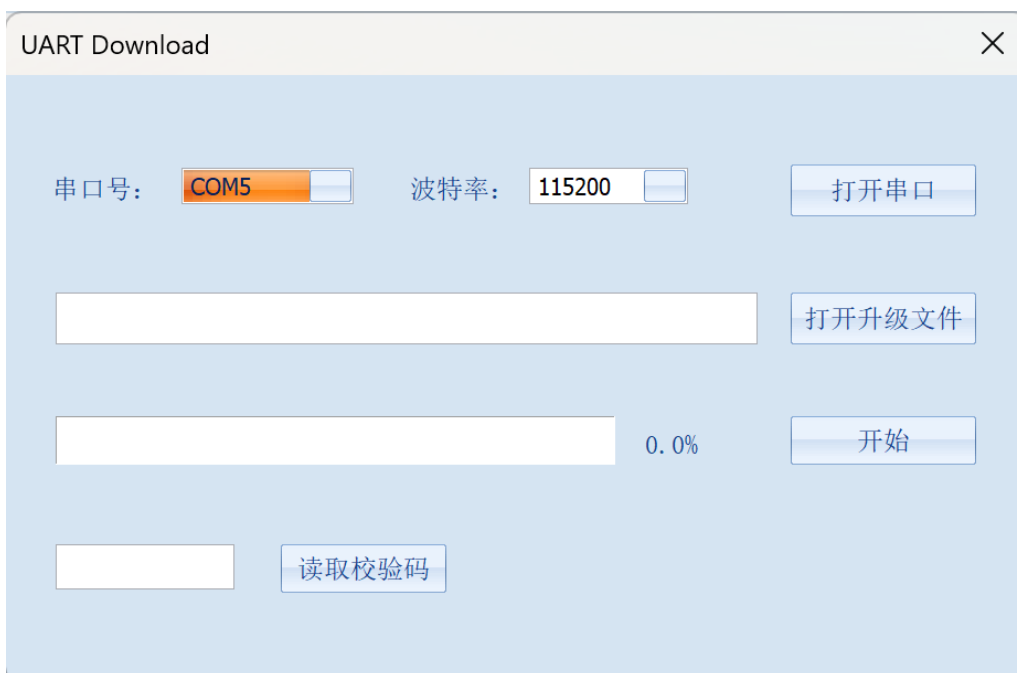


Figure-2



Figure-3

3. Applications

3.1. Secondary Development Resource

The usable resource of secondary development please refer to SW356X Application Development Interface.

3.2. Task Timing

To meet the protocols timing requirements, the running time of secondary development tasks in the main loop shall not exceeded 1ms.

3.3. Watchdog

In case watchdog is used, it shall be fed in main loop to make sure software logical is run as expected, but not fed watchdog in interrupt.

3.4. PD3.1 EPR to SPR Switching

Due to the bug of PD sniffer toolkits, a PD HardReset event could be trigged while switching EPR to SPR of PD protocol.

3.5. UART

The UART band rate shall be set within 115200 bps.

Don't connect the pull-up resistance to UART TX and RX signals.

● Clear interrupt flag firstly and then writes the received data to user defined memory buffer in the UART interrupt routine.

3.6. Sleep

System can enter deep sleep or normal sleep mode to deduce the power consumption. In deep sleep scenario, developer can use BTM or Watchdog as the MCU wake up internal source; Please note that any external interrupt e.g. TypeC attached will wake up MCU in both deep sleep and normal sleep scenarios.

The BTM clock frequency is 125K;

4. Revision History

Version	Date	Detail description
V1.0.0	2023.04.27	Initial version;

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