USB HOST SUPPORT HUB

Introduction

This sample code demonstrates how to use USB Host to support USB HUB devices

Applicable products:

Product series	AT32F435 series
	AT32F437 series

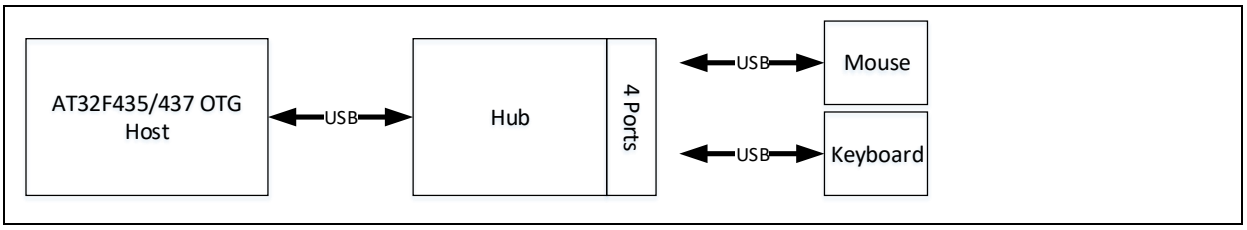
List of major peripherals used:

Peripherals	QTG

1 Overview

This sample code uses OTG host to enumerate USB Hub devices. This demo supports 4 Ports HUB, and detects HUB port state. For example, if a USB device is connected to HUB, the connection and disconnection to this device can be detected by OTG Host. In this sample code, it allows to connect a mouse or keyboard in HUB mode. Enumeration information about HUB/mouse/keyboard can be viewed through serial interface.

Connection diagram:

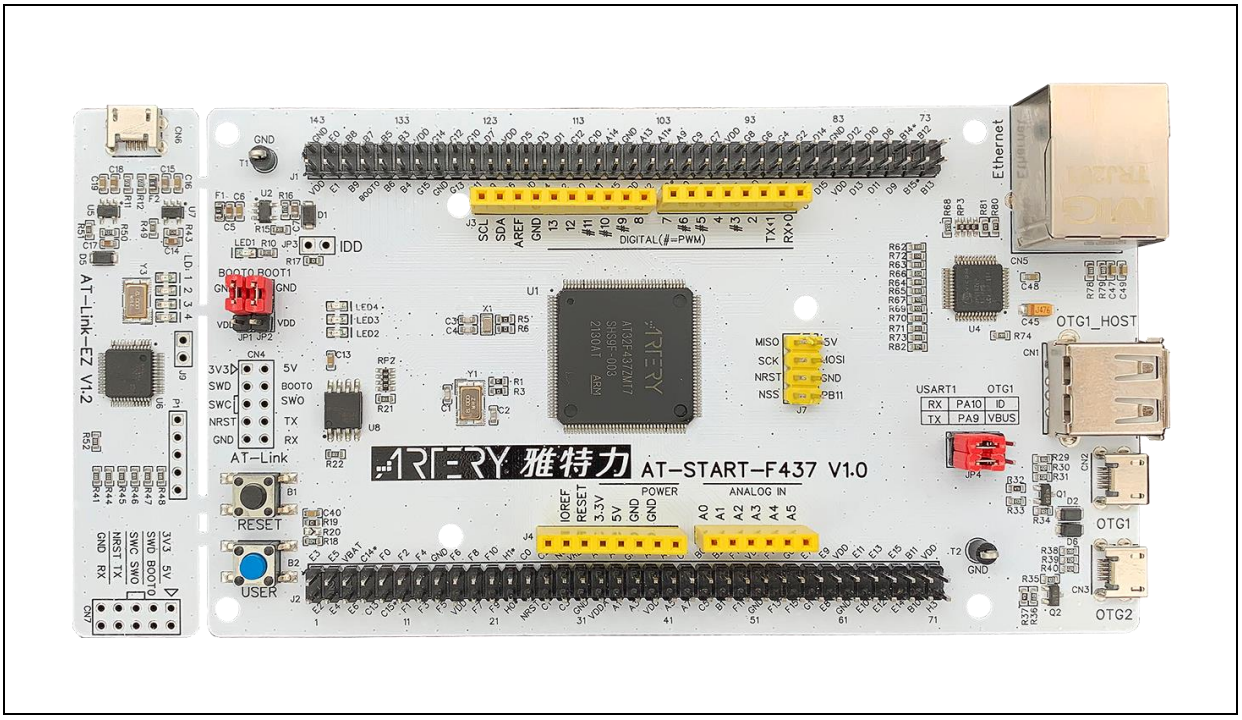


2 Quick start

2.1 Hardware resources

1) AT-START-F437/435 V1.x. The following Figure 1 is AT-START-F437 board.
2) USB Hub device
3) Mouse or keyboard

Figure 1. AT-START-F437 V1.0 board



2.2 Software resources

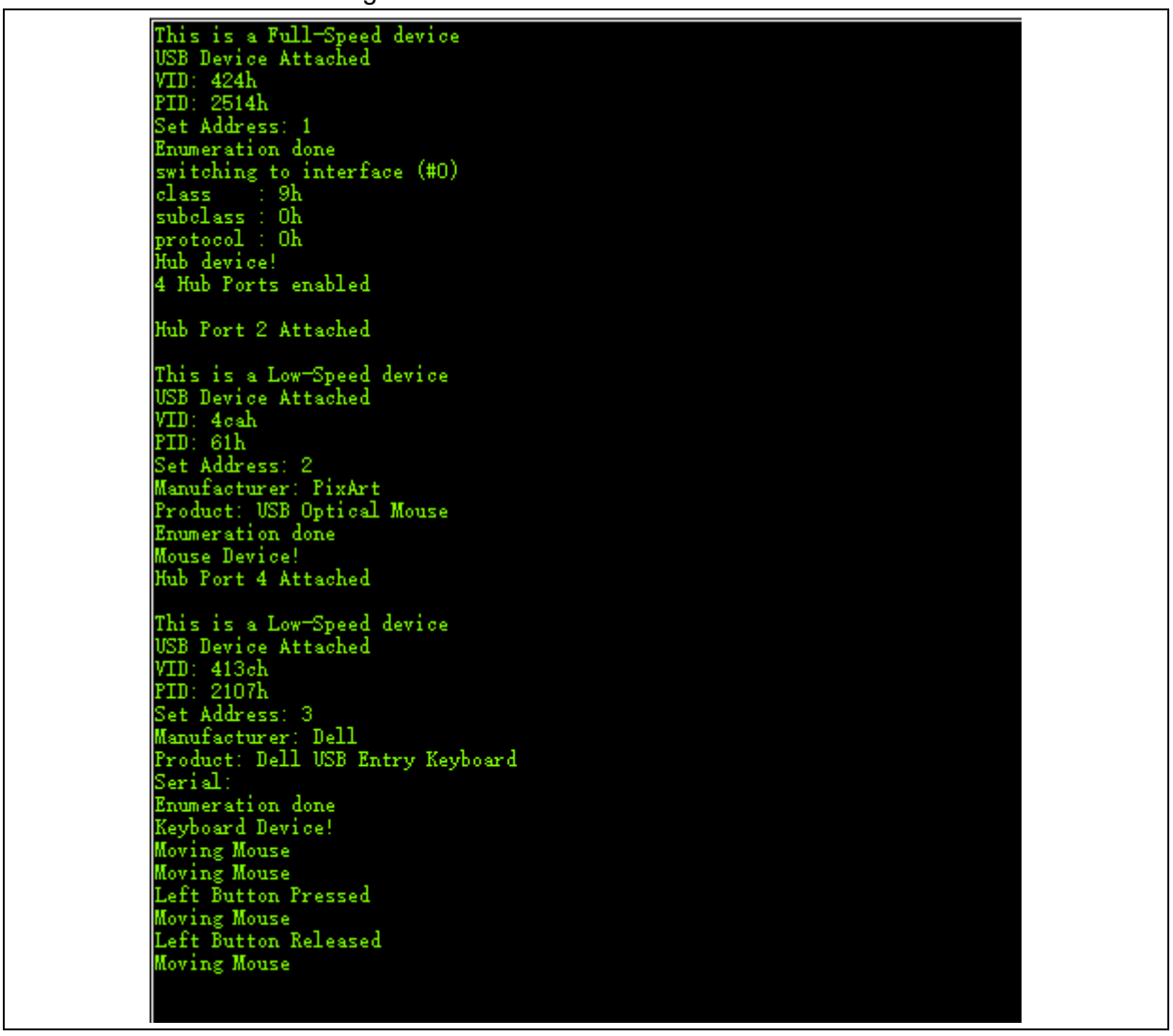
1) C0117_SourceCode

   This demo supports HUB and HID device recognition. When debugging, connect a HUB to OTB Host, and then connect a mouse or keyboard to HUB. The mouse buttons and keyboard characters can be printed out through serial interface, see Demo for details.

Note: All of projects are built based on Keil 5. For the need to run in other compiling environments, user can make simple adjustments according to AT32xxx_Firmware_Library_V2.x.x\project\at_start_xxx\templates.

2.3 Example case

1) Open SourceCode\SC0117_SourceCode_V2.0.0\utilities\hub\mdk_v5
2) Compile and download code to the evaluation board
3) Connect HUB to OTG HOST interface (enumeration can be viewed through printout)
4) Upon enumerated, connect a mouse or keyboard to HUB
5) View enumerated information through serial interface
6) After successful enumeration, keyboard characters can be printed and displayed by operating mouse buttons and moving mouse



3 Revision history

Table 1. Document revision history

Date	Revision	Changes
2023.05.12	2.0.0	Initial release

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