#### SC0050 Sample Code

AT32F4xx Composite VirtualComport Printer

### Introduction

This sample code introduces the demo of usb composite virtual comport printer, which can be applied to other series in a similar way.

Note: The corresponding code in this application note is developed on the basis of V2.x.x BSP provided by Artery. For other versions of BSP, please pay attention to the differences in usage.

Applicable products:

Part number	AT32F403xx
	AT32F413xx
	AT32F403Axx
	AT32F407xx

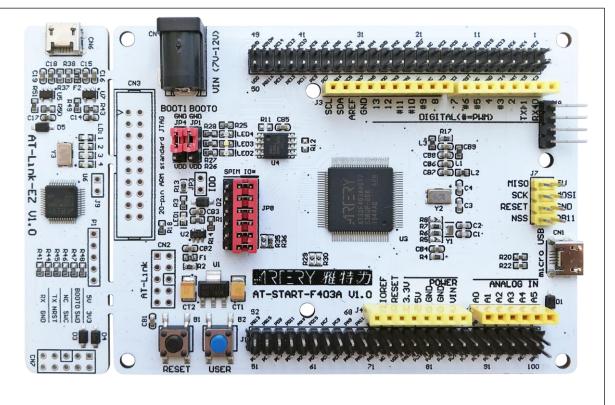
List of peripherals:

Main peripheral	USB
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## 1 Application method

#### 1.1 Hardware requirements

1) AT-START-F403A V1.0 evaluation board (or the corresponding evaluation board of other series)



#### Figure 1. AT-START-F403A V1.0 evaluation board

### 1.2 Software requirements

- 1) SourceCode
  - composite\_vcp\_printer source code
- Note: All projects are built around keil 5. If users want to use them in other compiling environments, please refer to BSP\_V2.x.x\project\xxx\templates (such as IAR6/7/8, keil 4/5) for a simple change.

#### **1.3** Example of application

1) Open the composite\_vcp\_printer project, and download to the evaluation board. Connect the evaluation board USB interface to PC, and the PC device manager will display a composite vcp and printer, as shown in Figure 2.

🚅 Realtek PCIe GBE Family Controller		^	Actions
	WMware Virtual Ethernet Adapter for VMnet1		Device Manager
	🕎 VMware Virtual Ethernet Adapter for VMnet8		More Actions
WAN Miniport (IKEv2)			Iviore Actions
🚽 WAN Miniport (IP)			
🚽 WAN Miniport (IPv6) 🚽 WAN Miniport (L2TP)	USB Printing Support Properties		$\times$
WAN Miniport (Network Monitor) WAN Miniport (PPPOE)	General Driver Details Events		
WAN Miniport (PPTP)	USB Printing Support		
<ul> <li>✓ WAN Miniport (SSTP)</li> <li>✓ ₩ Ports (COM &amp; LPT)</li> </ul>			
■ USB 串行设备 (COM23)	Property		
> Print queues	Hardware Ids		~
> Processors			
> Sensors	Value		
Software components	USB\VID_2E3C&PID_5750&REV_0200&MI_0	2	
> Software devices	USB\VID_2E3C&PID_5750&MI_02		
Sound, video and game controllers			
> Storage controllers			
> System devices			
<ul> <li>Universal Serial Bus controllers</li> </ul>			
Intel(R) USB 3.0 eXtensible Host Controller			
No Printer Attached			
Realtek USB 2.0 Card Reader			
USB Composite Device			
USB Composite Device			
USB Printing Support			
USB Root Hub (USB 3.0)			

#### Figure 2. Enumeration of device on PC



# 2 Revision history

Table 1. Document revision history

Date	Version	Revision note
2022.04.07	2.0.0	Initial release.

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