



STM32 USB资源列表

2014

STM32 MCU有两种带USB功能的IP

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• USB IP

- 可作为全速USB设备
- 存在于STM32F102、STM32F103

• FS OTG IP

- 可作为全速和低速USB主机
- 可作为全速USB设备
- 存在于STM32F105/107、STM32F2/4

USB+ IP

可作为全速USB设备
存在于STM32F0x2

HS OTG IP

可作为高速、全速和低速USB主机
可作为高速和全速USB设备
存在于STM32F2/F4

	USB	USB+	OTG	
	FS	FS	FS	HS
STM32 F0 STM32 L0		Y		
STM32 F102/103 STM32 F3 STM32 L1	Y			
STM32 F105/107			Y	
STM32 F2/F4			Y	Y

STM32 USB库及其例程

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- www.st.com/mcu → Resource → software → STM32 Embedded Software Examples :

Part number	Description
STSW-STM32046	STM32F105/7, STM32F2 and STM32F4 USB on-the-go Host and device library (UM1021)
STSW-STM32051	STM32F105/107 in-application programming using USB host (AN3354)
STSW-STM32121	STM32F10x, STM32L1xx and STM32F3xx USB full speed device library (UM0424)
STSW-STM32092	STM32F0x2xx USB FS device library (UM1717)

STM USB demo (4)

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- **OTG IP library @F2/F4 (STSW-STM32046)**
 - 页面链接:
 - <http://www.st.com/web/catalog/tools/FM147/CL1794/SC961/SS1743/PF257882>
 - 相关文档 **UM1021**
 - http://www.st.com/st-web-ui/static/active/en/resource/technical/document/user_manual/CD00289278.pdf
 - 主机设备库下载:
 - http://www.st.com/st-web-ui/static/active/en/st_prod_software_internet/resource/technical/software/firmware/stm32_f105-07_f2_f4_usb-host-device_lib.zip
 - 实现的设备例程
 - **AUDIO、DFU、HID、MSC、VCP**
 - **Dual Core** (**FS IP**和**HS IP**同时工作, 分别实现**MSC**和**HID**设备)
 - 实现的主机例程
 - **MSC、HID**
 - **Dual Core** (**FS IP**和**HS IP**同时工作, 分别实现**MSC**和**HID**主机功能)
 - 实现的双角色例程
 - **DRD** (根据插入电缆的不同, 分别作**MSC**主机和**MSC**设备功能)

STM32 USB库及其例程（2）

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- **USB+ IP library @F0x2（STSW-STM32092）**

- 页面链接
- <http://www.st.com/web/catalog/tools/FM147/CL1794/SC961/SS1743/PF257928>
- 相关文档 UM1717:
- http://www.st.com/st-web-ui/static/active/en/resource/technical/document/user_manual/DM00104543.pdf
- USB设备库下载:
- http://www.st.com/st-web-ui/static/active/en/st_prod_software_internet/resource/technical/software/firmware/stsw-stm32092.zip
- 实现的例程
 - Audio_Speaker、CCID、MSC
 - Custom_HID、HID、HID_LPM_test
 - DFU、Virtual_COM_Port
 - CDC+HID复合设备、MSC+HID复合设备

STM USB demo (3)

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- **USB IP library @F10x/F3/32L (STSW-STM32121)**
 - 页面链接
 - <http://www.st.com/web/catalog/tools/FM147/CL1794/SC961/SS1743/PF258157>
 - 相关文档 UM0424:
 - http://www.st.com/st-web-ui/static/active/en/resource/technical/document/user_manual/CD00158241.pdf
 - USB设备库下载:
 - http://www.st.com/st-web-ui/static/active/en/st_prod_software_internet/resource/technical/software/firmware/stsw-stm32081.zip
 - 实现的例程
 - Audio_Speaker、DFU、MSC
 - Joystick、Custom_HID、VCP
 - MSC+HID 复合设备

三个USB库函数下的例程集合

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		USB+ IP	USB IP	OTG IP
版本 (截至14年10月)		V1.0.0	V4.0.0	V2.1.0
适用MCU		F0x2	F102/F103/F3/L1	F2/F4
设备 例程	音频	Audio	Audio_Speaker	AUDIO
	在线升级	DFU	Device_Firmware_Upgrade	DFU
	人机界面	HID Custom_HID HID_LPM_test	Custom_HID JoyStickMouse	HID
	大容量	MSC	Mass_Storage	MSC
	虚拟串口	Virtual_COM_Port	Virtual_COM_Port VirtualComport_Loopback	VCP
	智能卡	CCID	N.A	N.A
	复合设备	CDC+HID MSC+HID	MSC+HID	N.A

STM USB demo (4)

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- **STM32F105/107 IAP using USB host (STSW-STM32051)**
 - 页面链接
 - <http://www.st.com/web/catalog/tools/FM147/CL1794/SC961/SS1743/PF257887>
 - 相关文档 AN3354:
 - http://www.st.com/st-web-ui/static/active/en/resource/technical/document/application_note/DM00023593.pdf
 - 例程下载地址
 - http://www.st.com/st-web-ui/static/active/en/st_prod_software_internet/resource/technical/software/firmware/stsw-stm32051.zip

- www.st.com/mcu → Resource → software → STM32 software development suites:
- PC端VCP驱动（STSW-STM32102）
 - 页面链接
 - <http://www.st.com/web/catalog/tools/FM147/CL1794/SC961/SS1533/PF257938>
 - 驱动下载
 - http://www.st.com/st-web-ui/static/active/en/st_prod_software_internet/resource/technical/software/driver/stsw-stm32102.zip

- **DFU PC端程序（STSW-STM32080）**

- 页面链接：
<http://www.st.com/web/catalog/tools/FM147/CL1794/SC961/SS1533/PF257916>
- 相关文档 UM0412:
- http://www.st.com/st-web-ui/static/active/en/resource/technical/document/user_manual/CD00155676.pdf
- 程序下载:
- http://www.st.com/st-web-ui/static/active/en/st_prod_software_internet/resource/technical/software/demo_and_example/stsw-stm32080.zip

- **HID PC端程序（STSW-STM32084）**

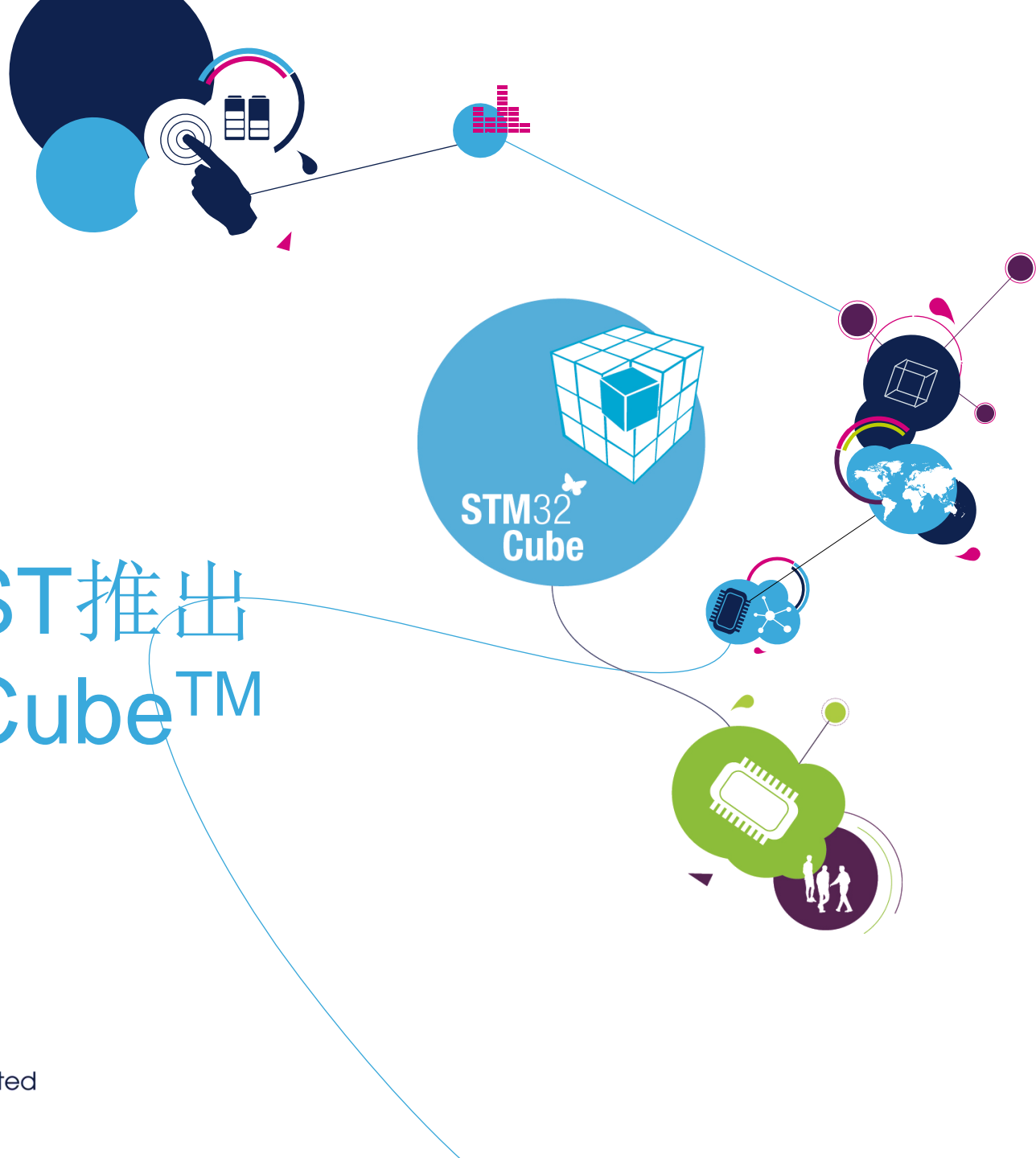
- 页面链接：
<http://www.st.com/web/catalog/tools/FM147/CL1794/SC961/SS1533/PF257920>
- 相关文档 UM0551:
- http://www.st.com/st-web-ui/static/active/en/resource/technical/document/user_manual/CD00196932.pdf
- 程序下载
- http://www.st.com/st-web-ui/static/active/en/st_prod_software_internet/resource/technical/software/driver/stsw-stm32084.zip

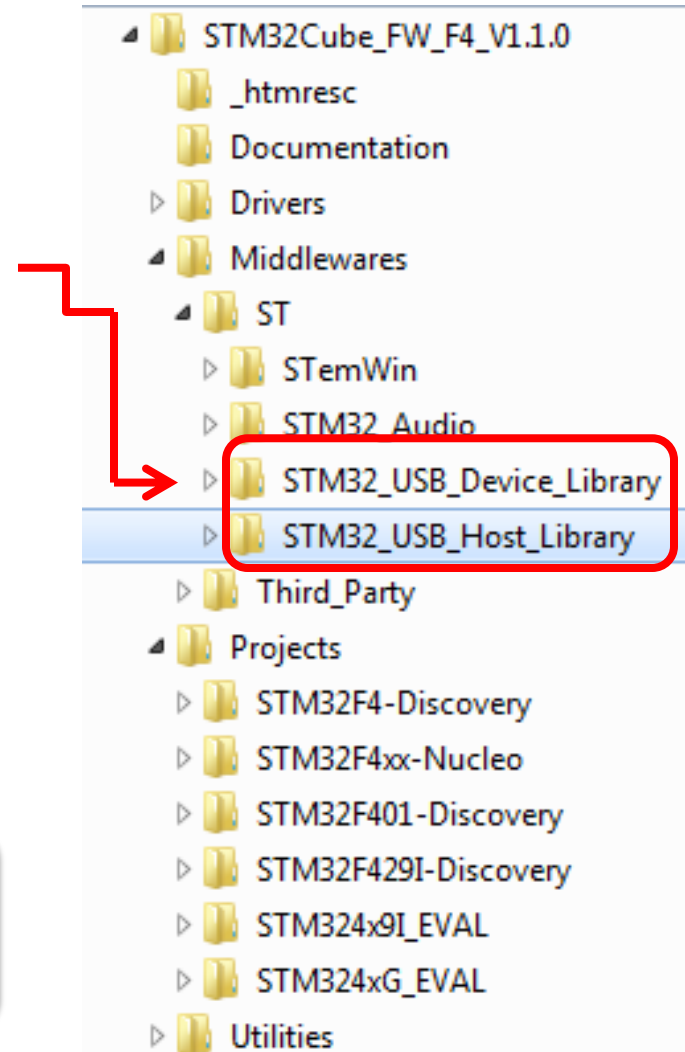
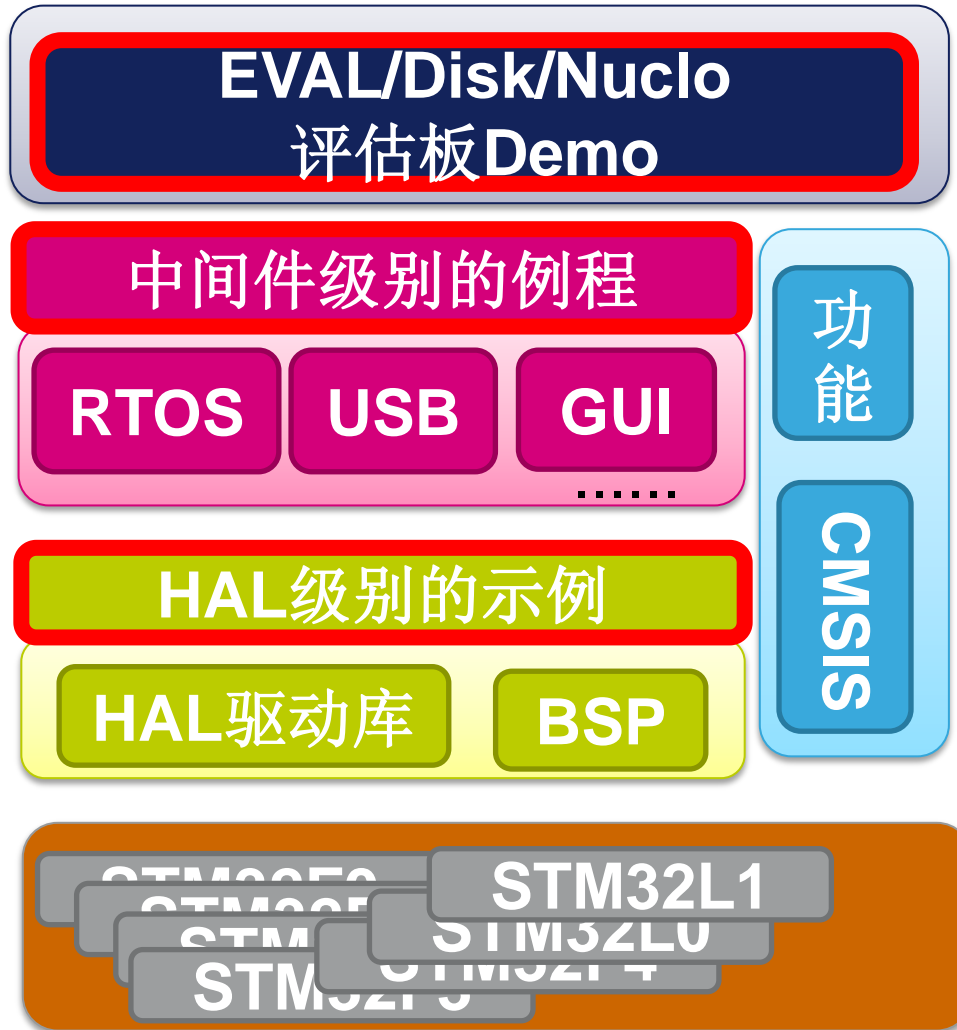
三个USB库函数下的例程集合

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		USB+ IP	USB IP	OTG IP
版本 (截至14年10月)		V1.0.0	V4.0.0	V2.1.0
适用MCU		F0x2	F102/F103/F3/L1	F2/F4
设备 例程	音频	Audio	Audio_Speaker	AUDIO
	在线升级	DFU	Device_Firmware_Upgrade	DFU
	人机界面	HID Custom_HID HID_LPM_test	Custom_HID JoyStickMouse	HID
	大容量	MSC	Mass_Storage	MSC
	虚拟串口	Virtual_COM_Port	Virtual_COM_Port VirtualComport_Loopback	VCP
	智能卡	CCID	N.A	N.A
	复合设备	CDC+HID MSC+HID	MSC+HID	N.A

2014年ST推出 STM32Cube™





STM32Cube固件库下载地址

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STM32Cube 固件库	下载地址
STM32CubeF0	http://www.st.com/web/catalog/tools/FM147/CL1794/SC961/SS1743/LN1897/PF260612
STM32CubeF1	N.A
STM32CubeF2	http://www.st.com/web/catalog/tools/FM147/CL1794/SC961/SS1743/LN1897/PF260266
STM32CubeF3	http://www.st.com/web/catalog/tools/FM147/CL1794/SC961/SS1743/LN1897/PF260613
STM32CubeF4	http://www.st.com/web/catalog/tools/FM147/CL1794/SC961/SS1743/LN1897/PF259243
STM32CubeF7	N.A
STM32CubeL0	http://www.st.com/web/catalog/tools/FM147/CL1794/SC961/SS1743/LN1897/PF260508
STM32CubeL1	N.A
备注	截至2014年10月，F1和L1的STM32Cube库还未发布；预计将于年底发布

STM32CubeFx包括了USB例程库

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		USB+ IP		USB IP		OTG IP	
版本		依赖于各个family的Cube库的版本					
USB例程库		STM32CubeF0	STM32CubeL0		STM32CubeF3	STM32CubeF2	STM32CubeF4
适用MCU		F0x2	L0	F1/F7/L1	F3	F2	F4
设备例程	音频					AUDIO	AUDIO
	在线升级	DFU	DFU		DFU	DFU	DFU
	人机界面	HID Ctm_HID	HID		HID Ctm_HID	HID	HID Ctm_HID
	大容量	MSC			MSC		MSC
	虚拟串口	CDC			CDC	CDC	CDC
	特殊						双核
主机	主机类别 例程	N.A				CDC、HID、 DFU、MTP	Audio/CDC/HI D/MSC/MTP/ DFU <u>HID/MSC*</u>
	特殊						双核、 动态切换

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