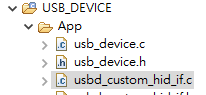
USB HID Programming

Usb HID report descriptor



\_\_ALIGN\_BEGIN static uint8\_t CUSTOM\_HID\_ReportDesc\_FS[USBD\_CUSTOM\_HID\_REPORT\_DESC\_SIZE] \_\_ALIGN\_END =

{

  /\* USER CODE BEGIN 0 \*/

    0x05, 0x01,                    // USAGE\_PAGE (Generic Desktop)

    0x09, 0x00,                    // USAGE (Undefined)

    0xa1, 0x01,                    // COLLECTION (Application)

    0x09, 0x00,                    //   USAGE (Undefined)

    0x15, 0x00,                    //   LOGICAL\_MINIMUM (0)

    0x26, 0xff, 0x00,              //   LOGICAL\_MAXIMUM (255)

    0x95, 0x40,                    //   REPORT\_COUNT (64)

    0x75, 0x08,                    //   REPORT\_SIZE (8)

    0x81, 0x02,                    //   INPUT (Data,Var,Abs)

    0x09, 0x00,                    //   USAGE (Undefined)

    0x15, 0x00,                    //   LOGICAL\_MINIMUM (0)

    0x26, 0xff, 0x00,              //   LOGICAL\_MAXIMUM (255)

    0x95, 0x40,                    //   REPORT\_COUNT (64)

    0x75, 0x08,                    //   REPORT\_SIZE (8)

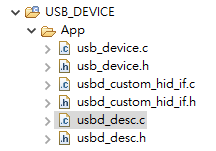
    0x91, 0x02,                    //   OUTPUT (Data,Var,Abs)

  /\* USER CODE END 0 \*/

    0xC0    /\*     END\_COLLECTION                \*/

};

Modify VID/PID



**#define** USBD\_VID 1155

**#define** USBD\_LANGID\_STRING 1033

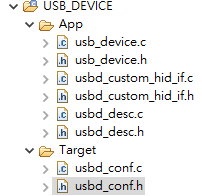
**#define** USBD\_MANUFACTURER\_STRING "STMicroelectronics"

**#define** USBD\_PID\_FS 22352

**#define** USBD\_PRODUCT\_STRING\_FS "STM32 Custom Human interface"

**#define** USBD\_CONFIGURATION\_STRING\_FS "Custom HID Config"

**#define** USBD\_INTERFACE\_STRING\_FS "Custom HID Interface"



/\*---------- -----------\*/

**#define** USBD\_MAX\_NUM\_INTERFACES 1U

/\*---------- -----------\*/

**#define** USBD\_MAX\_NUM\_CONFIGURATION 1U

/\*---------- -----------\*/

**#define** USBD\_MAX\_STR\_DESC\_SIZ 512U

/\*---------- -----------\*/

**#define** USBD\_DEBUG\_LEVEL 0U

/\*---------- -----------\*/

**#define** USBD\_LPM\_ENABLED 1U

/\*---------- -----------\*/

**#define** USBD\_SELF\_POWERED 1U

/\*---------- -----------\*/

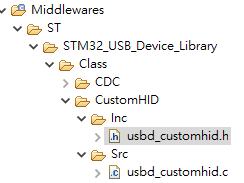
#define USBD\_CUSTOMHID\_OUTREPORT\_BUF\_SIZE 64U

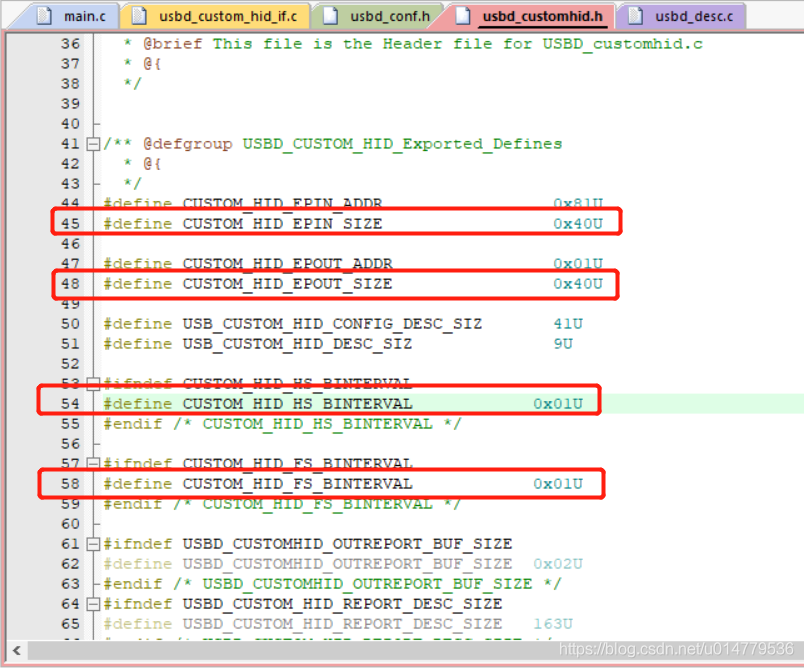
/\*---------- -----------\*/

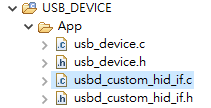
#define USBD\_CUSTOM\_HID\_REPORT\_DESC\_SIZE 33U

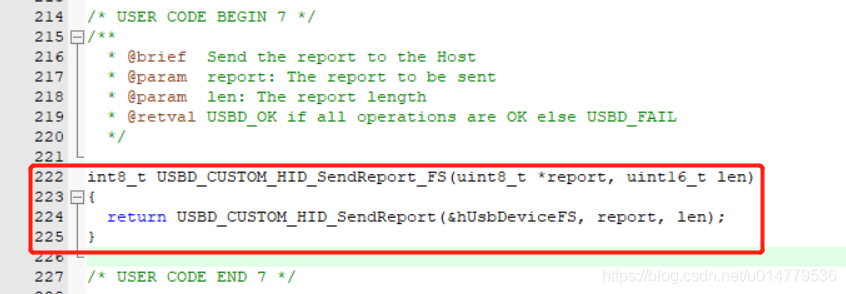
/\*---------- -----------\*/

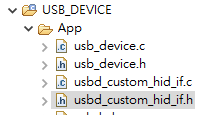
**#define** CUSTOM\_HID\_FS\_BINTERVAL 0x5U

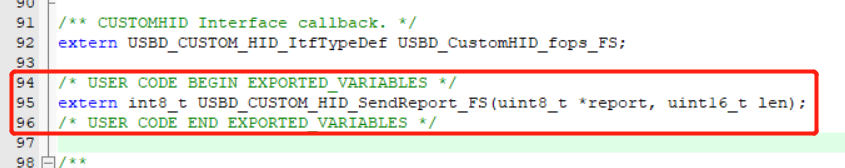


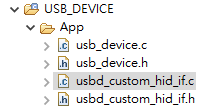












*/\* USER CODE BEGIN INCLUDE \*/*

***#include*** *<stdbool.h>*

*/\* USER CODE END INCLUDE \*/*

*/\* USER CODE BEGIN PV \*/*

*/\* Private variables ---------------------------------------------------------\*/*

*uint8\_t hid\_out\_report[64];*

*uint8\_t hid\_in\_report[64];*

*bool is\_hid\_out\_empty = true;*

*/\* USER CODE END PV \*/*

***static*** *int8\_t* ***CUSTOM\_HID\_OutEvent\_FS****(uint8\_t event\_idx, uint8\_t state)*

*{*

*/\* USER CODE BEGIN 6 \*/*

*UNUSED(event\_idx);*

*UNUSED(state);*

*USBD\_CUSTOM\_HID\_HandleTypeDef \*hhid =*

*(USBD\_CUSTOM\_HID\_HandleTypeDef\*) (hUsbDeviceFS.pClassData);*

***memcpy****(hid\_out\_report, hhid->Report\_buf, 64);*

*is\_hid\_out\_empty = false;*

*/\* Start next USB packet transfer once data processing is completed \*/*

*USBD\_CUSTOM\_HID\_ReceivePacket(&hUsbDeviceFS);*

***return*** *(USBD\_OK);*

*/\* USER CODE END 6 \*/*

*}*

Reference

HID

1. <http://213style.blogspot.com/2013/09/usb-human-interface-device.html>

PC

1. <https://www.codeproject.com/Articles/1244702/How-to-Communicate-with-its-USB-Devices-using-HID>

STM32

1. <https://blog.csdn.net/u014779536/article/details/104512992?utm_medium=distribute.pc_relevant_download.none-task-blog-baidujs-6.nonecase&depth_1-utm_source=distribute.pc_relevant_download.none-task-blog-baidujs-6.nonecase>
2. <https://blog.csdn.net/killf_123/article/details/107453942>
3. <https://www.twblogs.net/a/5c7124d8bd9eee68dc3f228c>
4. [HID API](https://blog.csdn.net/u010875635/article/details/73321066)
5. [USB HID and C Sharp](http://ahidlib.com/pages/programming_csharp.php?lang=en)
6. [HIDSharp](https://www.zer7.com/software/hidsharp)

aHID.dll

1. <http://ahidlib.com/pages/index.php?lang=en>
2. <http://ahidlib.com/pages/programming_csharp.php?lang=en>
3. <http://embedded24.net/>