Scope

This document describes how to test USB composite device HID_AUDIO example.

Preparation

Host

Personal computer running Windows Xp or Windows 7.

Device

A board, i.e. twrk22f120m, which is running dev_hid_audio example.

Libraries dependency

The libraries dependency for various RTOS lists as following,

BM

Library project path:

- *<install_dir>/usb/usb_core/device/build/<tool_chain>/usbd_sdk_<board>_bm*
- *<install_dir>/lib/ksdk_platform_lib/<tool_chain>/<platform>*

FreeRTOS

Library project path:

- *<install_dir>/usb/usb_core/device/build/<tool_chain>/usbd_sdk_<board>_freertos*
- *<install_dir>/lib/ksdk_freertos_lib/<tool_chain>/<platform>*

MQX

Library project path:

- *<install_dir>/rtos/mqx/mqx/build/<tool_chain>/mqx_<board>*
- *<install_dir>/rtos/mqx/mqx_stdlib/build/<tool_chain>/mqx_stdlib_<board>*
- *<install_dir>/usb/usb_core/device/build/<tool_chain>/usbd_sdk_<board>_mqx*
- *<install_dir>/lib/ksdk_mqx_lib/<tool_chain>/<platform>*

uCOSii

Library project path:

- *<install_dir>/usb/usb_core/device/build/<tool_chain>/usbd_sdk_<board>_ucosii*

- *<install_dir>/lib/ksdk_ucosii_lib/<tool_chain>/<platform>*

uCOSiii

Library project path:

- *<install_dir>/usb/usb_core/device/build/<tool_chain>/usbd_sdk_<board>_ucosiii*
- *<install_dir>/lib/ksdk_ucosiii_lib/<tool_chain>/<platform>*

Refer to **Integration of the USB Stack and Kinetis SDK_review.pdf(***<install_dir>/doc***)** on how to build the corresponding libraries.

Steps

Follow the steps to run the composite device hid_audio demo.

1. Plug-in the hid_audio device which is running dev_hid_audio example into PC.

2. After running the application, Windows will show a popup message indicating new hardware detected. Click on this message and a window showing the installation progress will be shown. Wait until the 'Ready to use' flags on both components are shown:
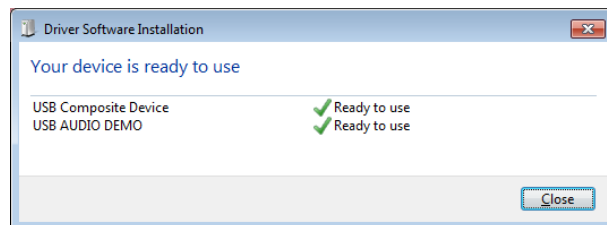

3. You can see the mouse arrow moving on PC's screen according to the rectangular rotation.

4. Now, right click on the Sound control icon of the Start bar (near to clock) and select 'Recording devices').

5. On the opened window, select the 'Microphone' device with the description 'USB Audio Device' and click on the 'Proprieties' button.
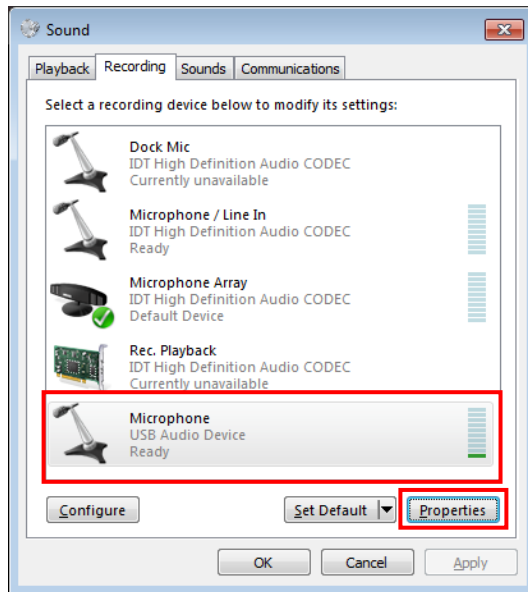
6. On the new window, go to 'Levels' tab, and move the slide until 100%, then, click on 'OK'.
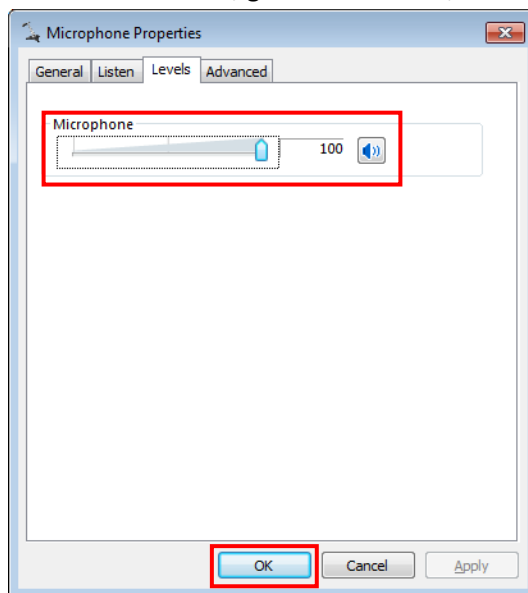
7. Back on the previous window be sure that 'USB Audio Device' is still selected, then click on the 'Set Default' button and finally, click on 'OK' button.
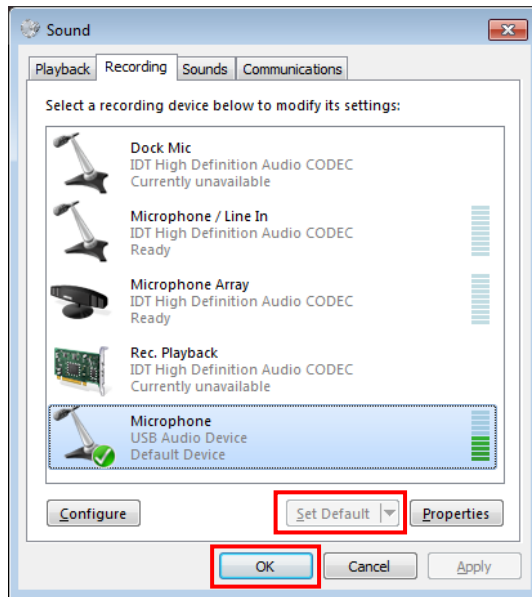
8. Open the 'Sound Recorder' application and record audio for about 5-10 seconds.
9. After recording, Open the recorder file with any media player. The sound that you can listen now is identical to the instance sound located in the memory.

Note: When connected to Macbook should change the PCM format from (0x02,0x00,) to (0x01,0x00,) in g_config_descriptor[CONFIG_DESC_SIZE] in the usb_descriptor.c, otherwise it can't be enumerated. And it will have noise when recording with the quicktime player since the sampling frequency and bit resolution are not matched.