## **Overview**

The USB Audio Generator application is a simple demonstration program based on the MCUXpresso SDK. It is enumerated as a recording device and users can record the sound from this device via the "Sound Recorder" in the Windows Accessories.

# **System Requirement**

#### Hardware requirements

- Mini/micro USB cable
- USB A to micro AB cable
- Hardware (Tower System/base module) for a specific device
- Personal Computer(PC)

### Software requirements

• The project files for lite version examples are in the following path:

```
<MCUXpresso_SDK_Install>/boards/<board>/usb_examples/usb_device_audio_generator_lite/<rtos>/<toolchain>. For non-lite version examples, the path is:
```

<MCUXpresso\_SDK\_Install>/boards/<board>/usb\_examples/usb\_device\_audio\_generator/<rtos>/<toolchain>.

Note

The <rtos> is Bare Metal or FreeRTOS OS.

# **Getting Started**

## **Hardware Settings**

• The Jumper settings:

J14 1-2.

If enable USB Full Speed function, please add jumper on J53.

If enable USB High Speed function, please remove jumper on J53.

Note

Set the hardware jumpers (Tower system/base module) to default settings.

### Prepare the example

- 1. Download the program to the target board.
- 2. Connect the target board to the external power source (the example is self-powered).
- 3. Either press the reset button on your board or launch the debugger in the IDE to start running the demo.
- 4. Connect a USB cable between the PC host and the USB device port on the board.

For detailed instructions, see the appropriate board User's Guide.

# Run the example in Windows

- 1. Plug-in the device which is running the Audio Generator example into the PC.
- 2. A USB AUDIO DEMO device shows up as enumerated in the Device Manager.
- 3. Right click on the sound control icon of the Start bar (close to the clock) and select the "Recording devices" option.



Figure 1: Sound control icon

4. In the pop-up window, select the "Microphone" device with the description "USB Audio Device" and click on the "Properties" button.

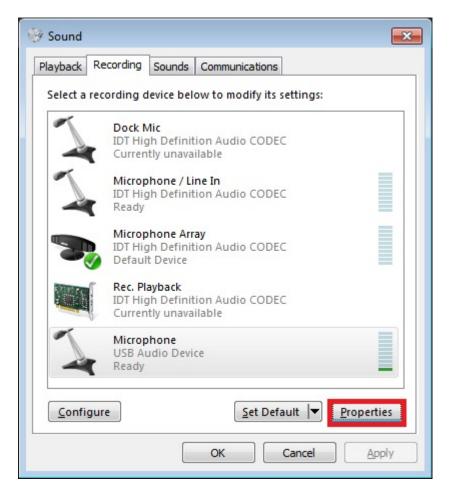


Figure 2: Select properties

5. On the new window, go to the "Levels" tab, and move the slide until 100%. Click "OK".



Figure 3: Change level

6. In the previous window, ensure that the "USB Audio Device" is still selected and click on the "Set Default" button. Finally, click on the "OK" button.

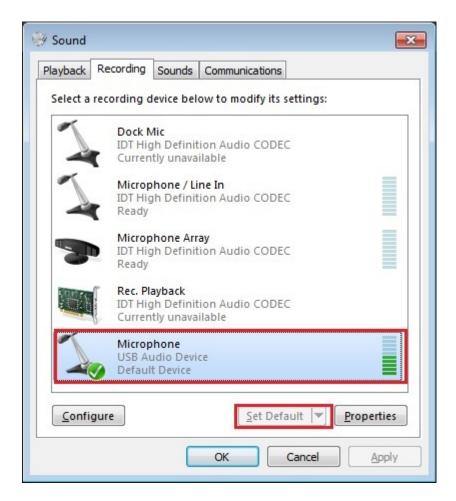


Figure 4: Set default

- 7. Open the "Sound Recorder" application and record audio for about 5-10 seconds.
- 8. After recording, open the recorder file with any media player.

#### Note

On Aruba which has DMIC module, please speaker to the DMIC when recording, the recorder file is the sound which is recorded by DMIC.

When connected to MacBook  $^{\circledR}$ , 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 noise is present when recording with the QuickTime  $^{\circledR}$  player because the sampling frequency and bit resolution do not match.