

Overview

The USB video virtual camera application is a simple demonstration program based on the MCUXpresso SDK. It is enumerated as a camera and users can see the video of the device by using a PC test tool.

System Requirement

Hardware requirements

- Mini/micro USB cable
- USB A to micro AB cable
- Hardware (Tower module/base board, and so on) for a specific device
- Personal Computer (PC)

Software requirements

- The project files for lite version example are in:
`<MCUXpresso_SDK_Install>/boards/<board>/usb_examples/usb_device_video_virtual_camera_lite/<rtos>/<toolchain>`.
For non-lite version example, the path is:
`<MCUXpresso_SDK_Install>/boards/<board>/usb_examples/usb_device_video_virtual_camera/<rtos>/<toolchain>`.

Note

The `<rtos>` is Bare Metal or FreeRTOS OS.

- Download and install the PC Test tool "QQ International", or from <http://www.imqq.com/#download>.

Note

The video virtual camera example is tested in Microsoft Windows 7 OS Enterprise X64.

Getting Started

Hardware Settings

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. Power off the target board. And then power on again.
4. Connect a USB cable between the PC and the USB device port of the board.

Note

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

Run the example

1. Plug in the device, which is running video virtual camera application, into the PC. An imaging device "Virtual Camera Demo" is enumerated in the Device Manager.

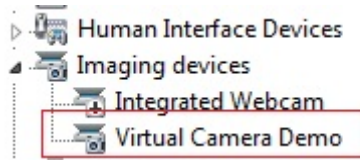


Figure 1: The video device is attached

2. Open the tool "Tencent QQ" and log in.



Figure 2: Login the test tool

3. Open the video test form Main Menu->Settings->General->Audio and Video->Video Settings.



Figure 3: Video Settings form

4. Select "Virtual Camera Demo" in DropBox. The video can be seen in the form.

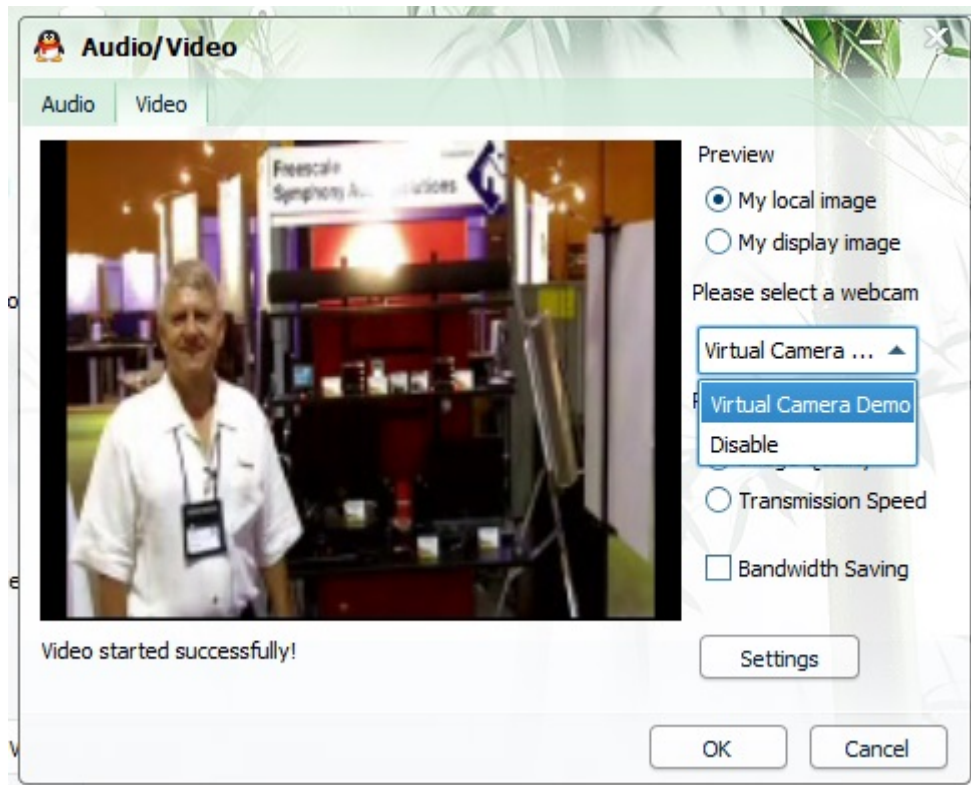


Figure 4: Open the video device

Note

The resolution is 176×144 and the video image format is MJPEG. The frame interval includes 30, 25, 20, 15, 10, and 5 and the default frame interval is 15.

When use CMSIS-DAP firmware with MCUXpresso IDE, need to do below steps:

- (a) Double click on the LinkServer Launch Configuration file (for example "frdmk32w042_usb_exmple_-device_virtual_camera_bm_LinkServer Debug.launch") to launch the editor.
- (b) Click inside the Reset Script entry to launch the browse dialogue in Debugger -> Connect Script.
- (c) Remove script "K32W042connect.scp".
- (d) Click "ok", then "apply".

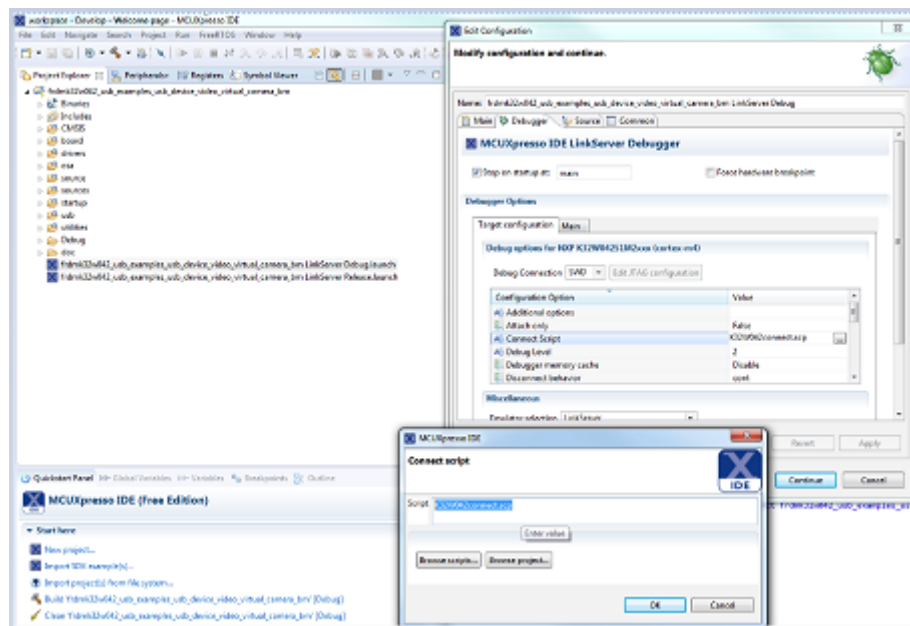


Figure 5: Remove connect script