UAC20 Demo Setup

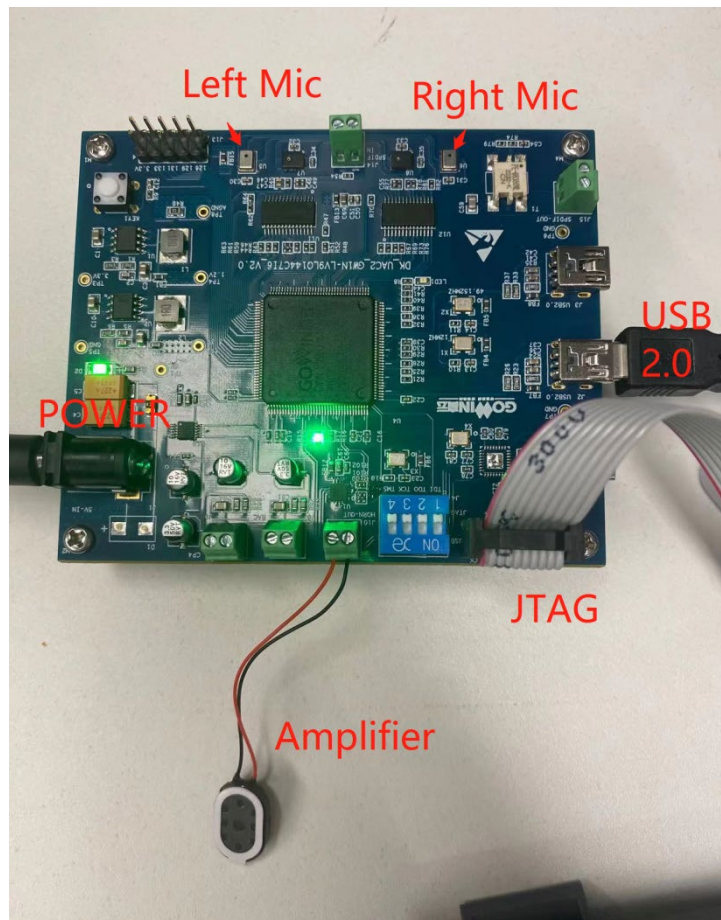STEP1: Make sure the PC System version is WIN10.

STEP2:
Power up UAC Board.
Connect UAC Board with PC through USB 2.0.
Connect UAC Board with PC through JTAG.
Connect the Amplifier.

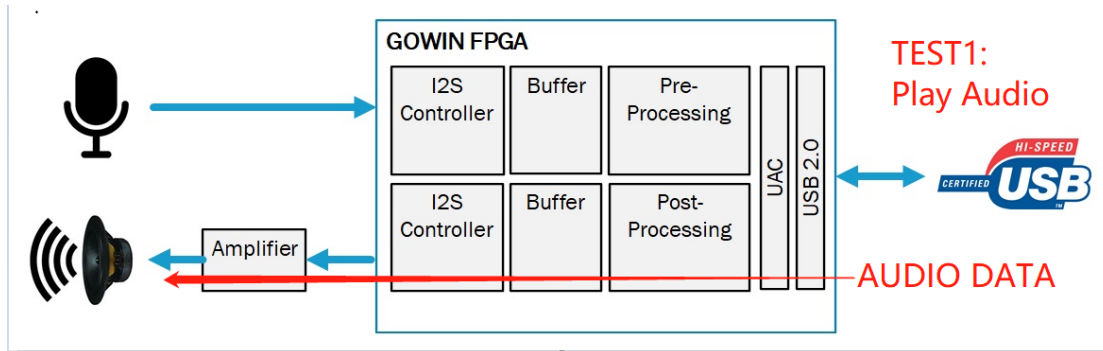STEP3: Download the bitstream to USB Board,
     For TEST 1~3, download the DK_USB20_GW1N_LV9LQ144C7I6_V2.0.fs
     For TEST 4, download the DK_USB20_GW1N_LV9LQ144C7I6_V2.0_LOOPBACK.fs
     For IIS IO, download the DK_USB20_GW1N_LV9LQ144C7I6_V2.0_IO.fs

UAC20 Demo Test

TEST 1:

In this Test, the UAC2 board plays the audio sent by PC.
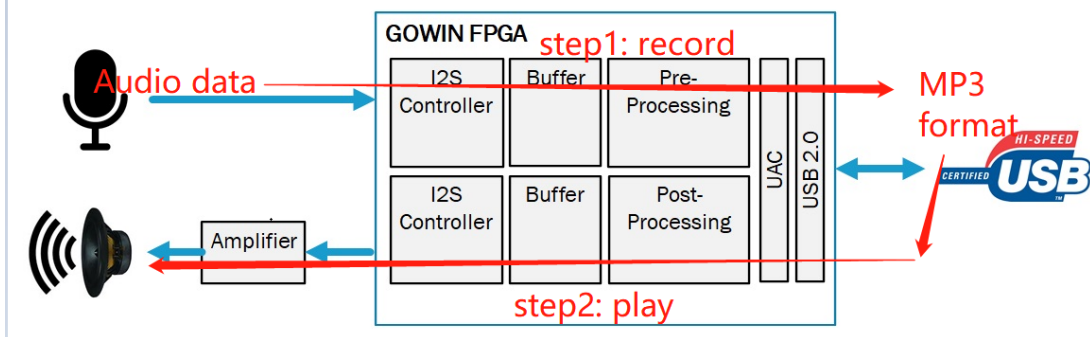
STEP1.Select Gowin UAC2 as speaker.

STEP2.Set the speaker's sampling frequency and bit resolution. (48000hz & 32 bit in this case)

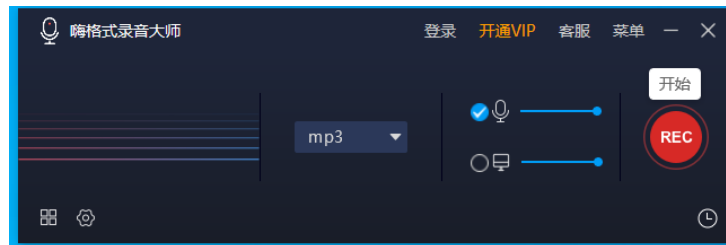STEP3.Start playing music on PC, you should hear it from Amplifier.

TEST 2:

In this Test, we record the sound and then play the recording.

Step1: Select UAC2 as mic. Set mic's sampling rate and bit resolution. (48000 & 32 bit in this case)
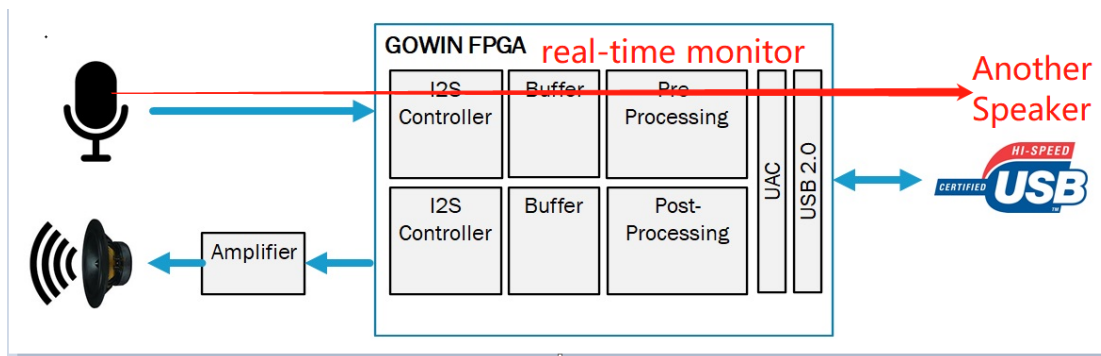
Step 2: Use a Recording application to record the mic input. Save the recording in mp3 format.

Step 3: Make sure the Speaker's sampling rate and bit resolution setting match the mic ones. Play this recording, and you should hear it from the Amplifier.

TEST 3 :

In this Test , we use another connected speaker , which is also connected to this PC ,   to real-time monitor the UAC mic input.

Step1:
Select UAC2 as mic.

Set mic's sampling rate and bit resolution. (48000 & 32 bit in this case)

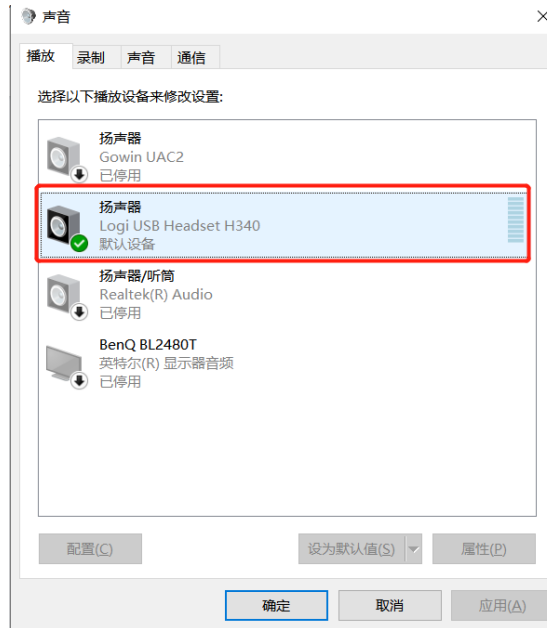Step2:

Go to UAC2 mic setting.

Enable monitor this device.

Select another speaker to play the real-time sound recorded by UAC2 mic.
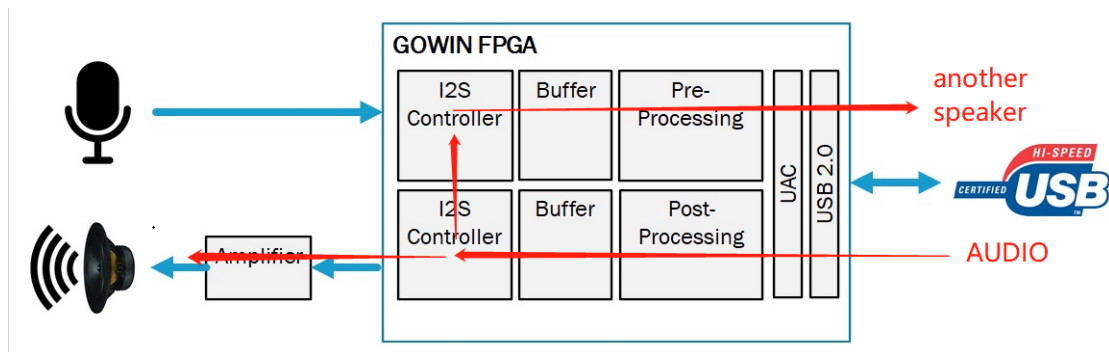

Step 3:

Disable the UAC2 speaker and enable the other speaker.

Now you should hear the real-time recorded sound by this speaker.

TEST 4 :

In this test, the audio sent to UAC Amplifier is also sent to UAC Mic. The loop back process is inside FPGA so that no hardware restriction exists. I.e., the sample frequency and data depth have no limitation.
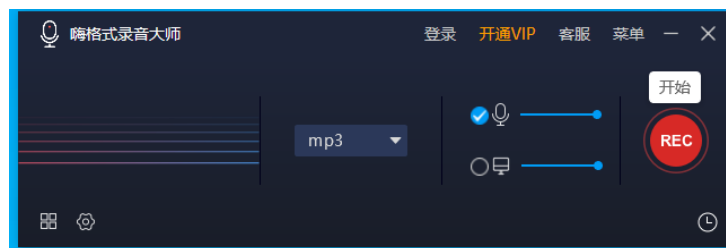
STEP1.Select Gowin UAC2 as speaker.

STEP2.Set speaker's sampling frequency and bit resolution.(38400hz & 32 bit in this case)

Step3:Set Mic's sampling rate and bit resolution. (384000 & 32 bit in this case)

STEP4:Play the Audio on PC and Use a Recording application to record the mic input. Save the recording in mp3 format.
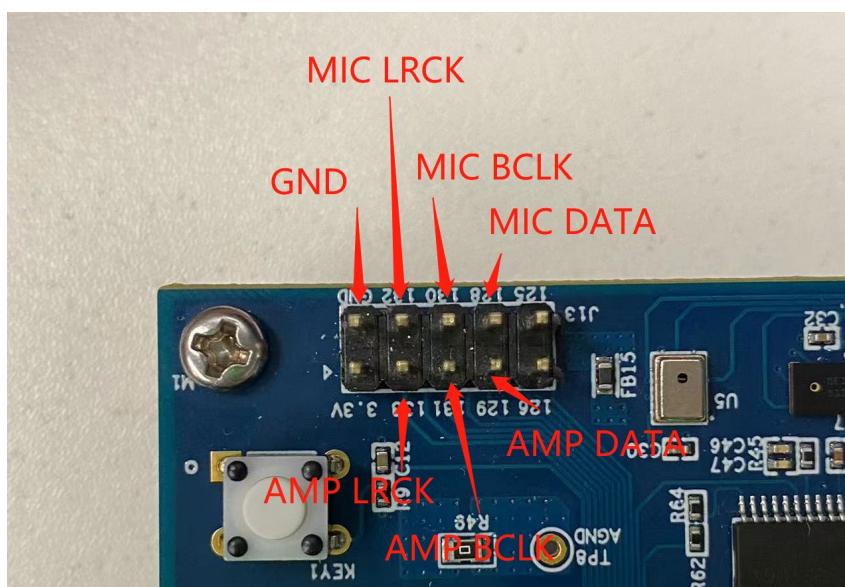

STEP5: Make sure the Speaker's sampling rate and bit resolution setting match the mic settings. Play this recording, and you should hear it from the Amplifier.

UAC20 Demo for IIS IO
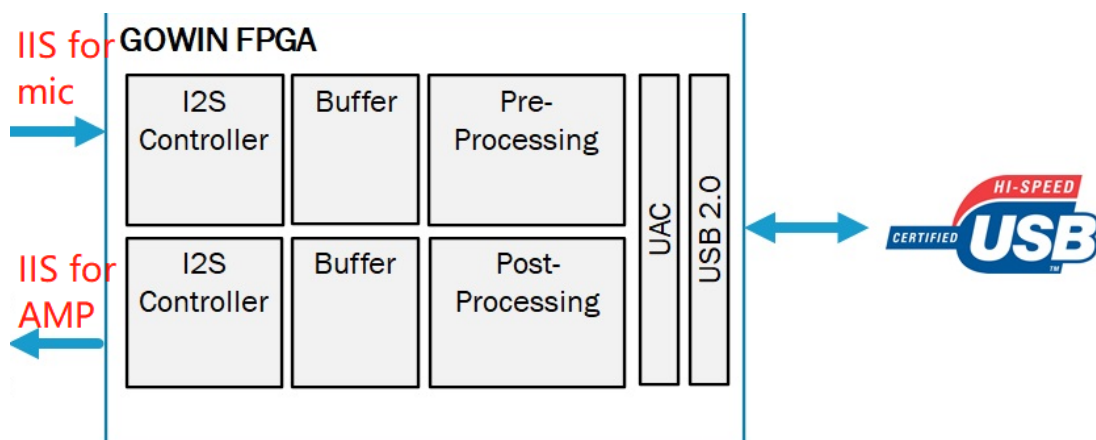
In this Demo, the IIS signals are pulled to IO.

NOTICE

Frequency and bit resolution restriction. (for test 1~3)

Input Format	Output Format	Data Width(bit)	Sample Rates (KHZ)
MIC IIS (L/R)	USB	16,24,32	32,44.1,48,88.2,96
USB	Amplifier IIS (L)	16,24,32	32,44.1,48,88.2,96

Amplifier hardware requirements: 4W 4ohm

The supported frequency and bit resolution is limited by the hardware condition.

Frequency and bit resolution restriction. (for test 4)

Input Format	Output Format	Data Width(bit)	Sample Rates (KHZ)
MIC IIS (L/R)	USB	16,24,32	32,44.1,48,88.2,96,176.4,192,352.8,384
USB	Amplifier IIS (L)	16,24,32	32,44.1,48,88.2,96,176.4,192,352.8,384

Frequency and bit resolution restriction. (for IIS IO)

Input Format	Output Format	Data Width(bit)	Sample Rates (KHZ)
MIC IIS (L/R)	USB	16,24,32	32,44.1,48,88.2,96,176.4,192,352.8,384
USB	Amplifier IIS (L/R)	16,24,32	32,44.1,48,88.2,96,176.4,192,352.8,384

Test 4 and IIS IO have no frequency and bit restriction.