CM65XX
EEPROM Configuration Tool
User Manual

Rev. 0.2

April. 6, 2012

Content

Revision History

Revision	Date	Description
0.1	2012/02/16	First release
0.2	2012/04/06	Spec Changed 5.2 Audio I/O Config Page

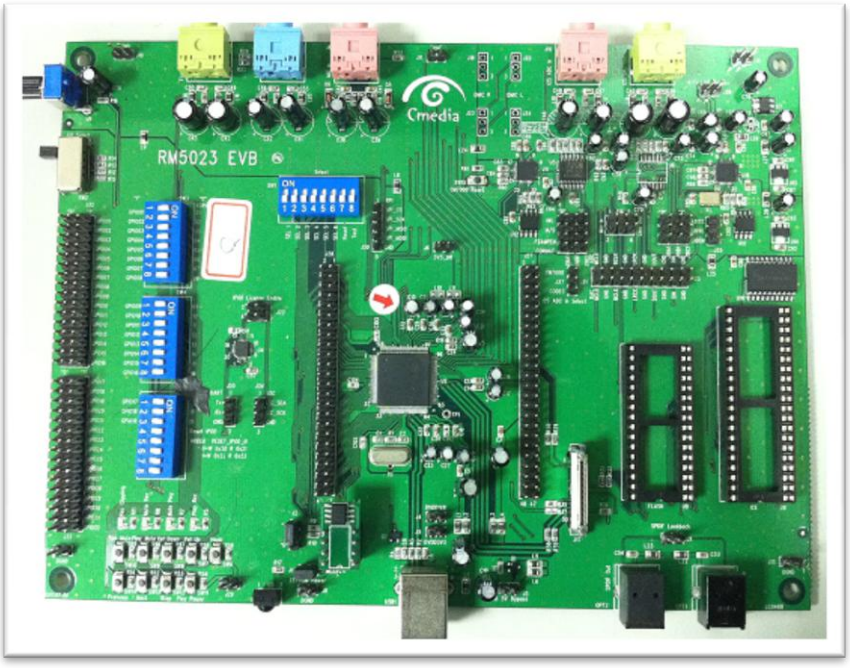
1. Introduction

C-Media provides an EEPROM tool for manufacturer to set the EEPROM setting of CM65XX series IC.

2. Device Requirement

1) Personal Computer with Windows XP/Vista/Win7 (32 or 64bit)
2) USB Cable (Type A-Type B)

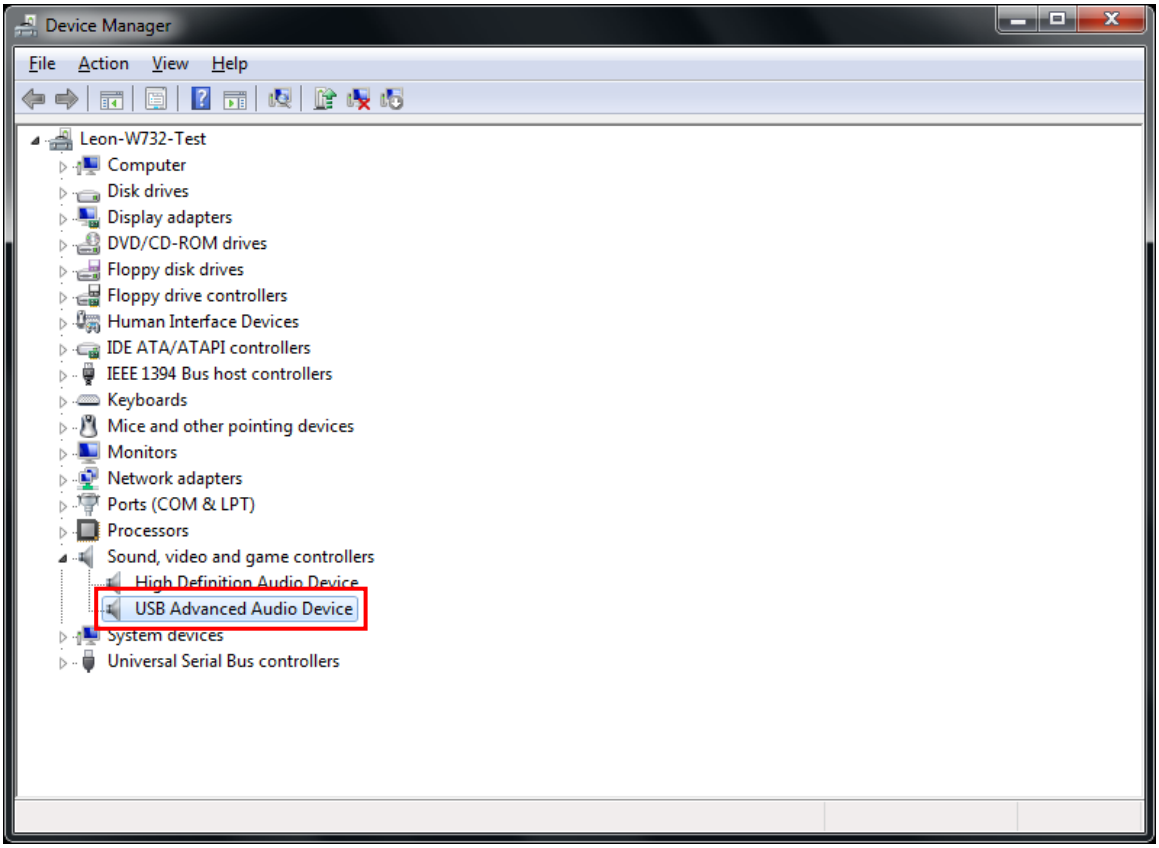
3) CM65XX Hardware device



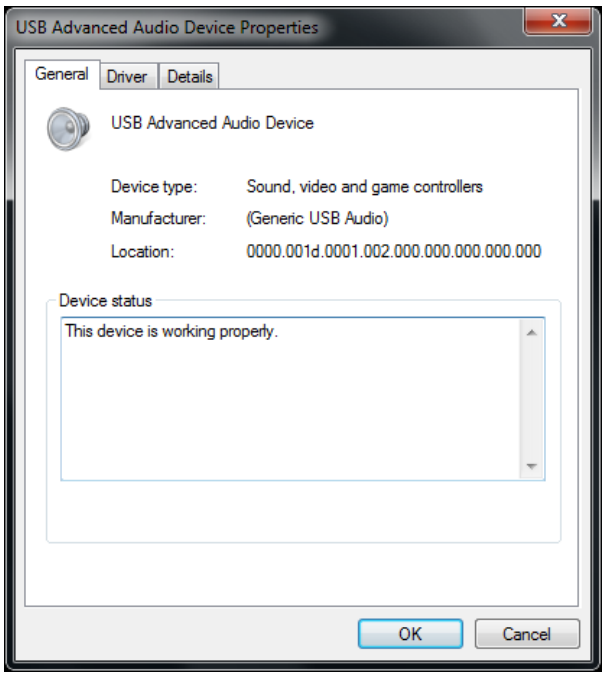
(CM65XX EVB)

3. Basic Connection and Setting

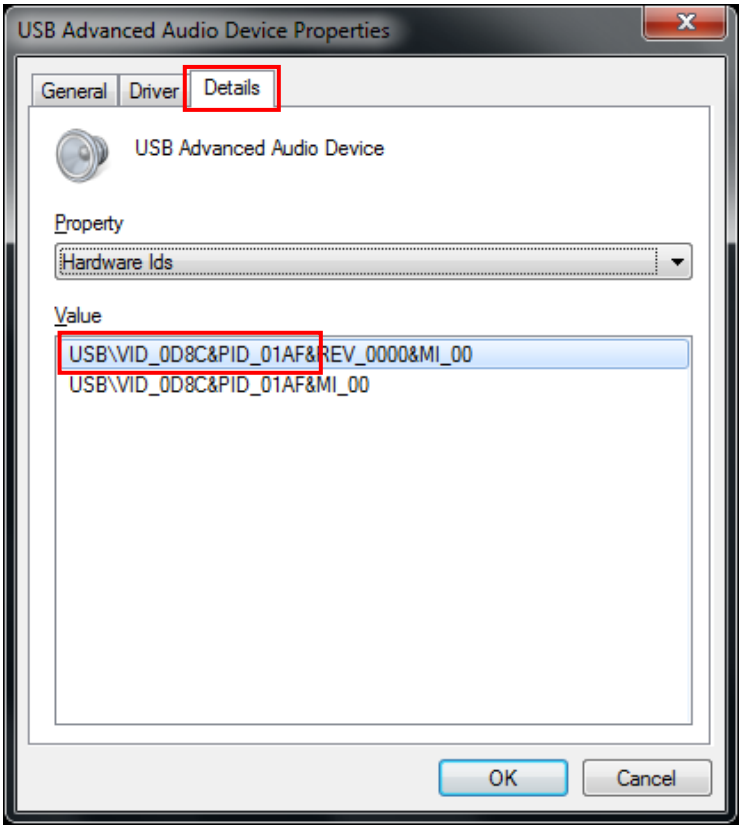
1) Use a USB cable (Type A-Type B) to connect the CM65XX EVB to your computer.
2) Open the Windows **Control Panel → Device Manager →** double click the "**USB Audio Device**" item to open the **USB Audio Device Properties** dialog box.



USB Audio Device Properties dialog box



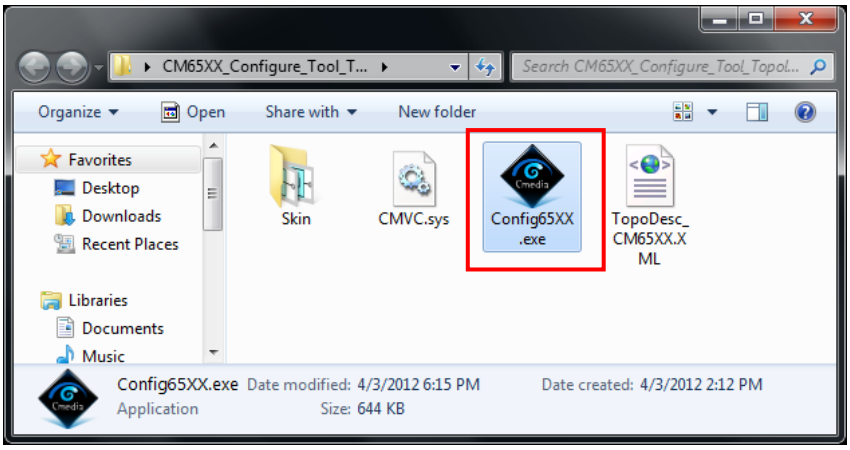
3) In the "Detailed" tab, get the CM65XX device's **VID/PID** (Ex. 0D8C/O1AF).



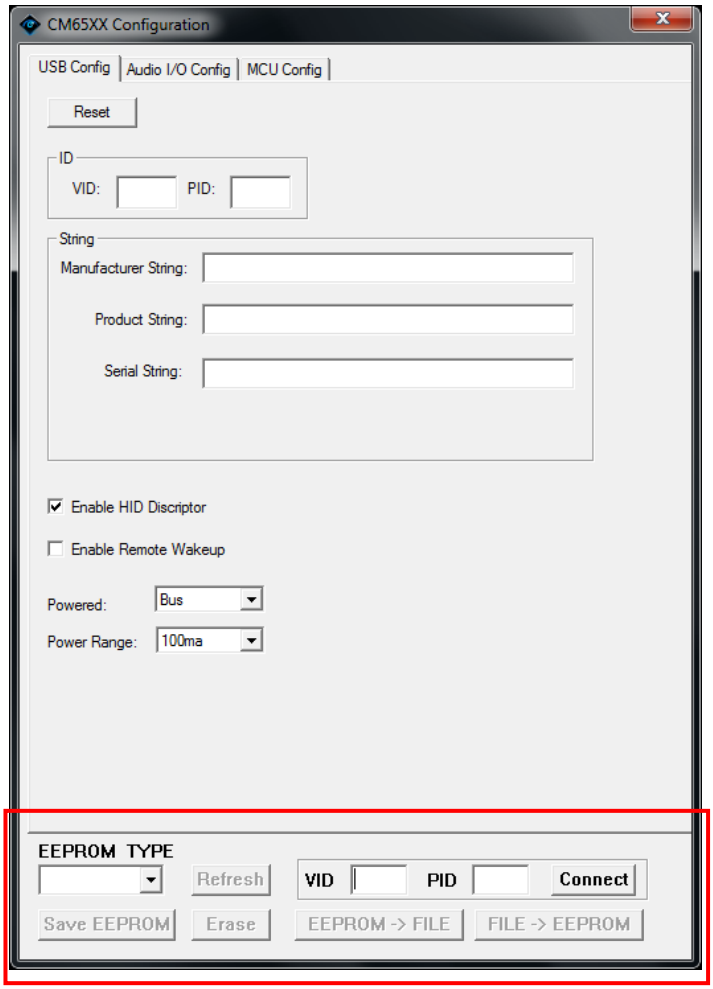
4. Start Using The CM65XX Configuration Tool

4.1 Open the CM65XX Configuration Tool

1) Double click the Configuration tool “Config65XX.exe”.



2) You will see the configuration tool “Config65XX.exe” dialog box.



3) Connect to CM65XX hardware device

Step1- Choose the EEPROM TYPE (Ex. S24C32), please make sure the EEPROM Type.

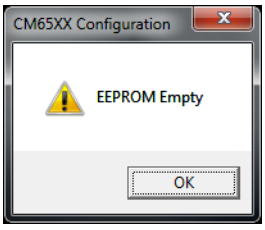
Step2- Input the VIP and PID (Case Insensitive).

Step3- Click [Connect].

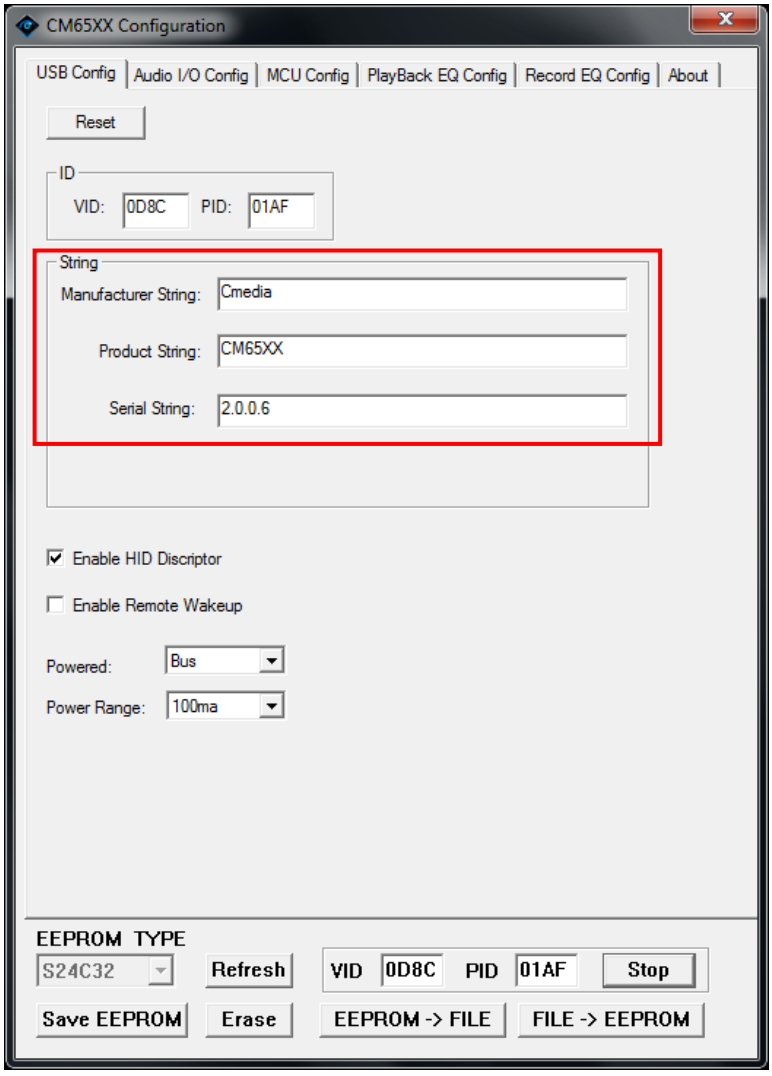
Step4- Make sure the connection status.

- Successful connections

If the connection is successful but the EEPROM data is empty, you will see a dialog box as below.

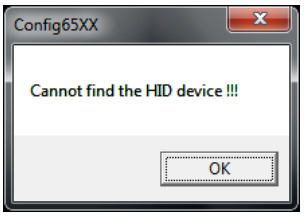


If the connection is successful, you will see a dialog box with default data as below. (The default data could be empty.)



- Failed connection

If the connection is failed, you will see a dialog box as below.

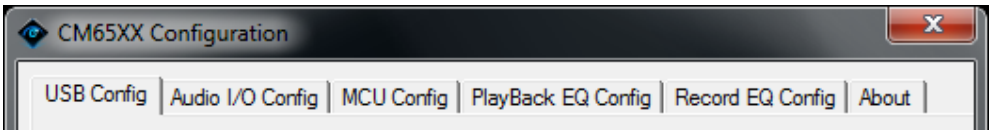


4.2 Saving EEPROM

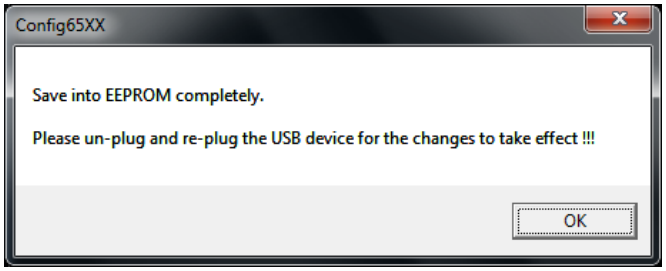
This function can write data to the EEPROM, whenever the EEPROM settings are changed, the hardware device needs to **re-plug** to make the settings take effect.

When each page of setting has set, click on the [Save EEPROM] to start writing data into EEPROM.

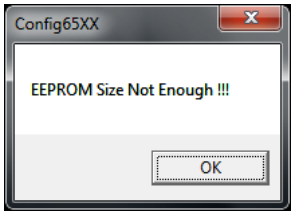
Each page of the EEPROM settings, you can find the function description on Chapter 5.0



When the saving is completely you will see below dialog box.



If the EEPROM size is not enough, you will see below dialog box.



(Note: EEPROM writing time depends on the amount of data.)

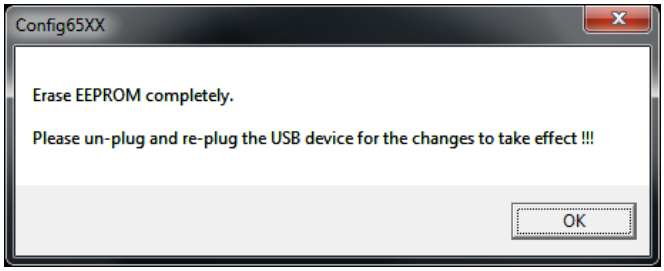
4.3 Erase EEPROM

This function can erase all data of EEPROM.

ERASE

Click on [Erase] to erase the all EEPROM data.

After EEPROM erasing, you can see a message as below dialog box.



(Note: EEPROM erasing time depends on the EERPOM model.)

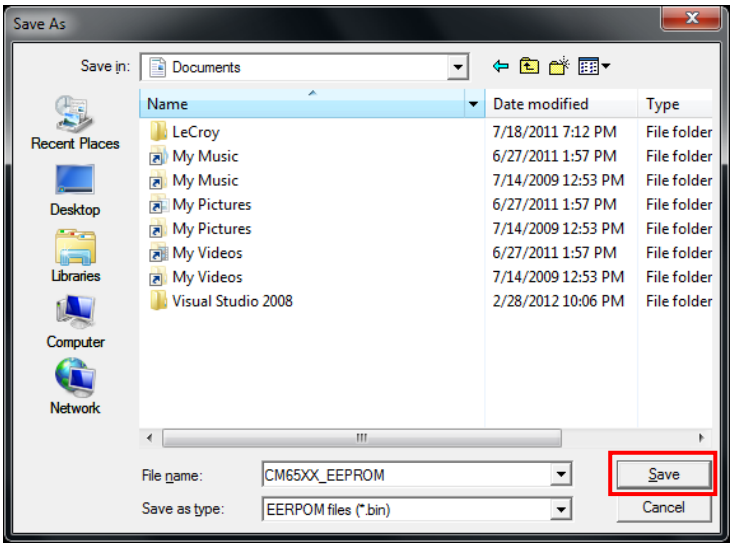
4.4 EEPROM → File

This function can export EERPOM data to a binary file

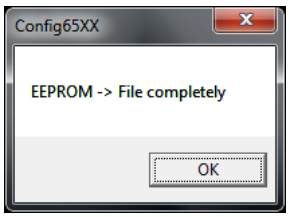
EEPROM->FILE

Click on the [EEPROM ->FILE], this tool will export the data of the EEPROM into a binary file.

You need to select the storage location and type a file name and then click on [Save].



After binary file export is finished, you can see below dialog box.



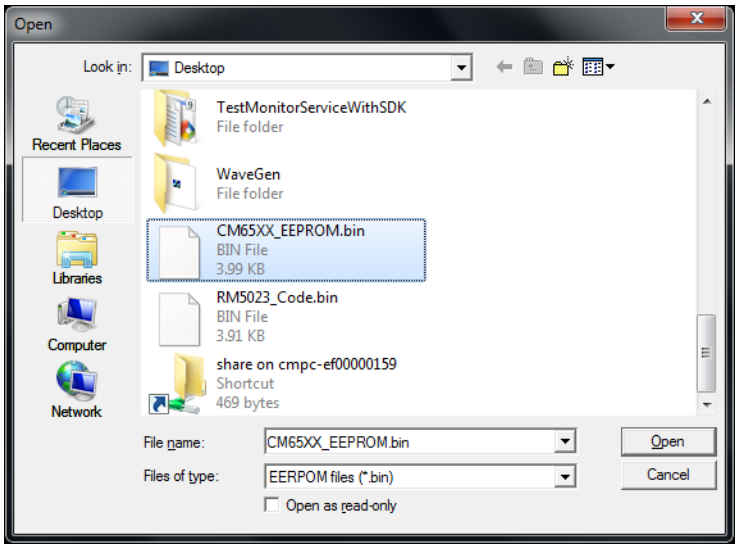
4.5 File → EEPROM

This function can load a binary file and write to EEPROM.

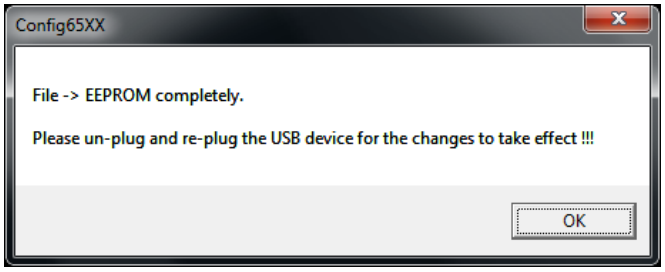
FILE->EEPROM

Click on [FILE->EEPROM] can load a binary file.

Choose a binary file (*.bin) that you want to write to EEPROM.



After the EEPROM data writing is finished, you can see below dialog box.



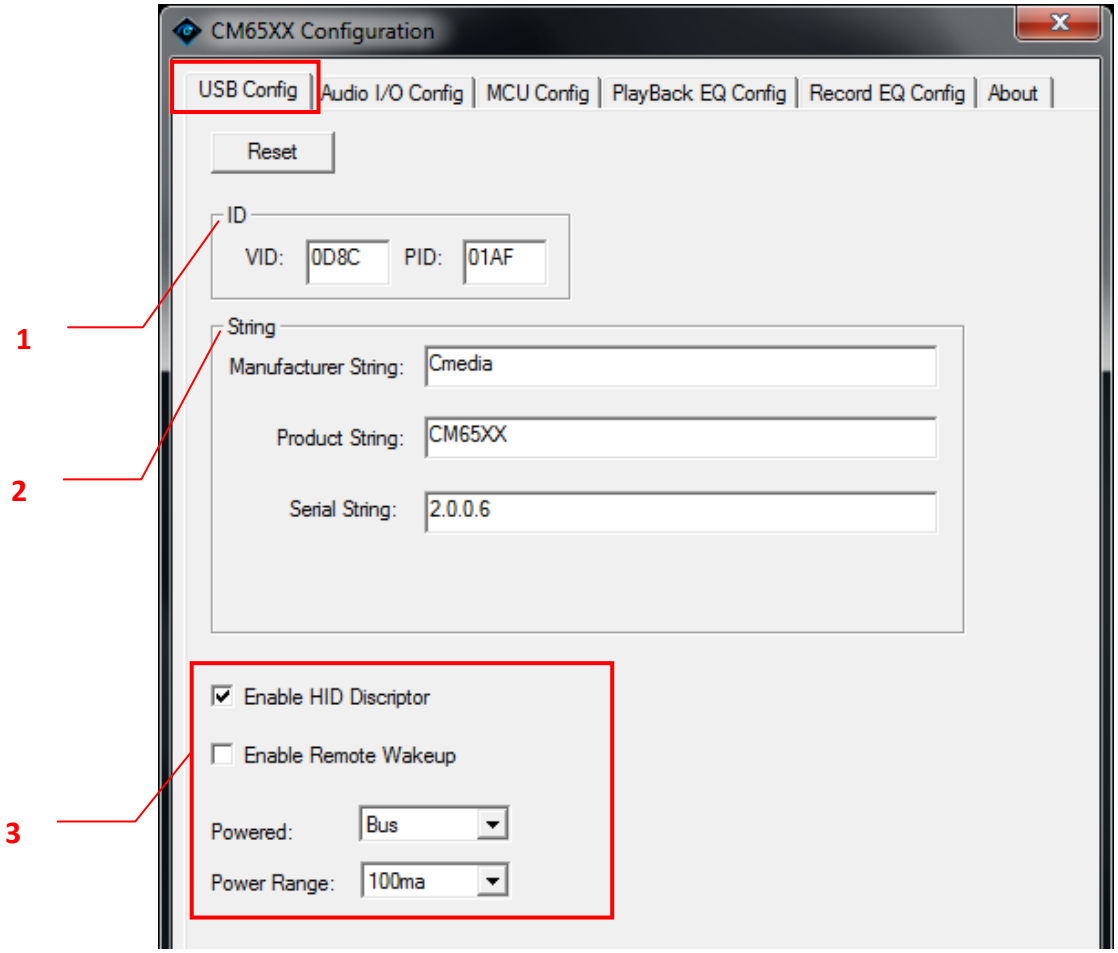
4.6 Refresh

Click on [REFRESH], configuration tool will auto execute the [Stop] and then execute [Connect] to refresh the EEPROM connection.

5. CM65XX Configuration Settings Introduction

5.1 USB Config Page

Set the USB information and USB setting



USB Information

1. ID

VID

Vendor ID

PID

Product ID

2. String (String limit 30bytes)

Manufacture String

Input Manufacture name

Product String

Input Product Model No. or Model Name

Serial Number

Input product serial number or version.

3. USB Setting

- **Enable HID Descriptor**

  Enable HID Function

- **Enable Remote Wakeup**

  Enable Remote Wakeup

- **Powered**

  Bus: Power supply by the USB ORT

  Self: Power supply by the external power

- **Power Range (100ma~500ma)**

  Set the power range.

5.2 Audio I/O Config Page

In this page, you can set some options:

Set options

Set output/input terminal type.

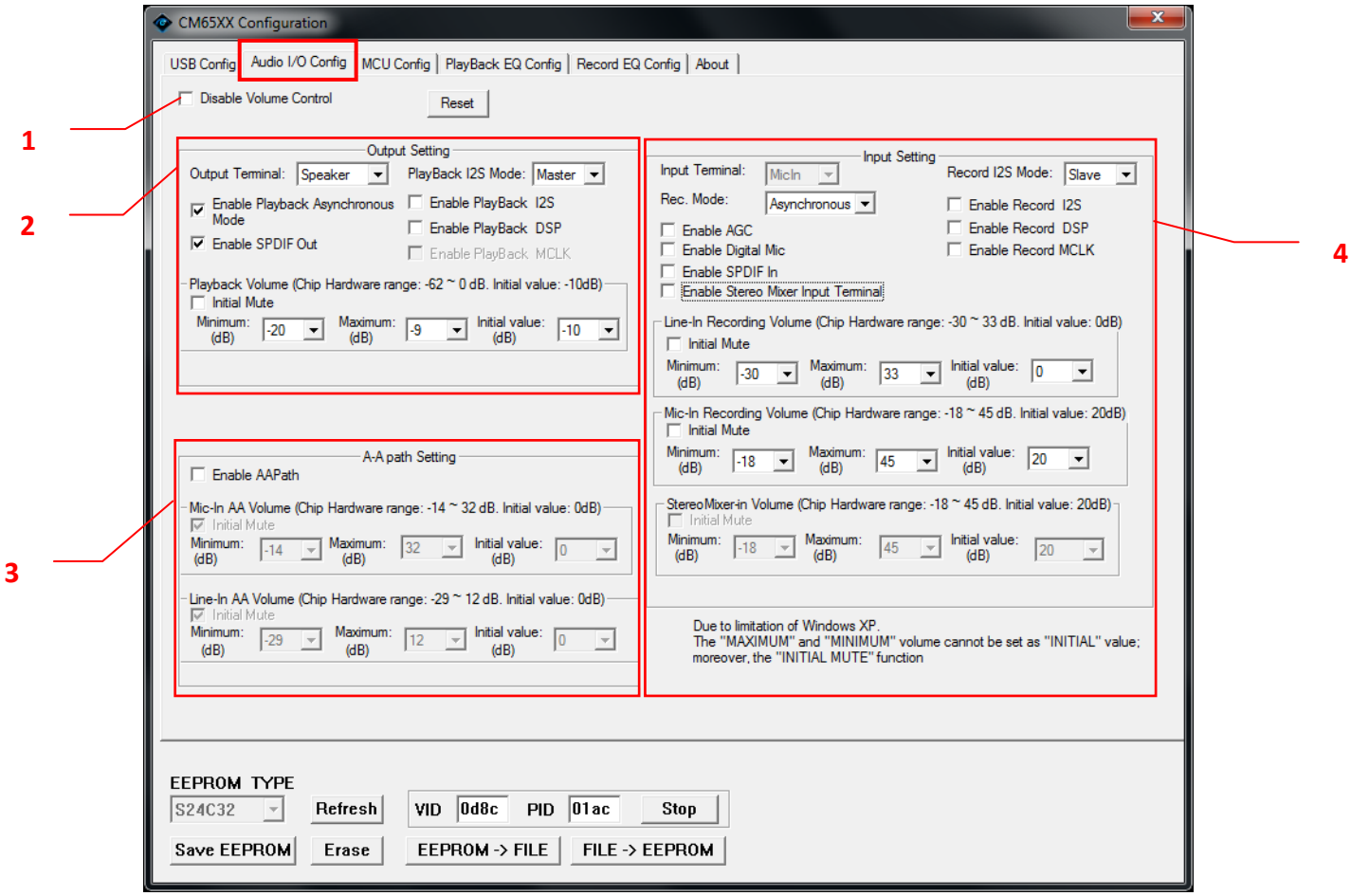
Set output/input terminal to enable/disable.

Set AAPath enabled/disabled.

Set volume and mute status:

Set default volume and volume range for all endpoints.

Set initial status (mute/un-mute, AGC on/off) for all endpoints.

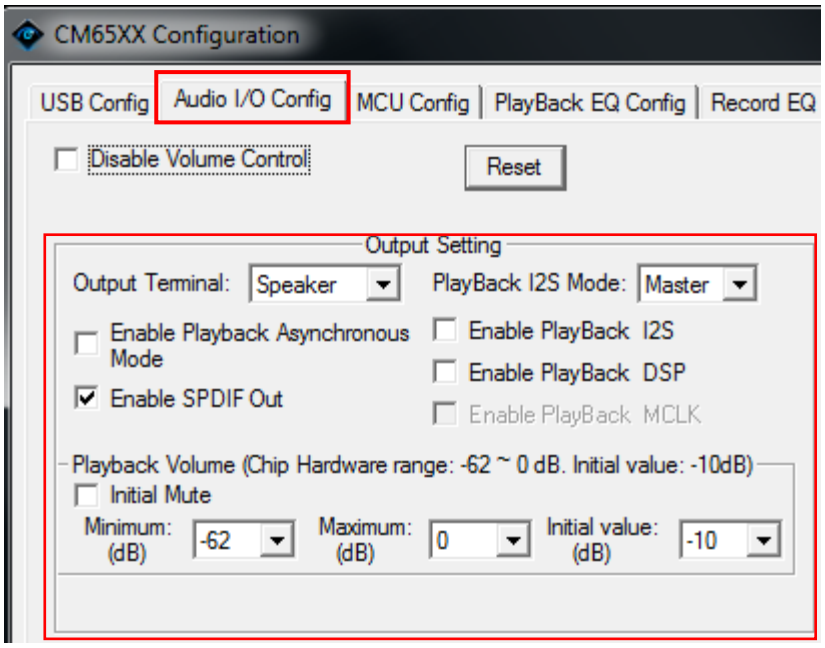


(Options will be grayed if device doesn't support its configuring.)

1. Disable Volume Control

If this item is checked, all settings on this page will not be written to the EEPROM.

2. Output Setting



- **Output Terminal**
  Set the Output device Endpoint in Speaker or Headphone.

- **Playback I2S Mode**
  Master Mode:
  BCLK, LRCK are provided by I2S Interface
  Slave Mode:
  BCLK, LRCK are provided by Codec

- **Enable Playback Asynchronous Mode**
  When asynchronous mode support, the host will adjust sending package length by the content of feedback.

- **Enable I2S (Playback and Record)**
  Use internal I2S

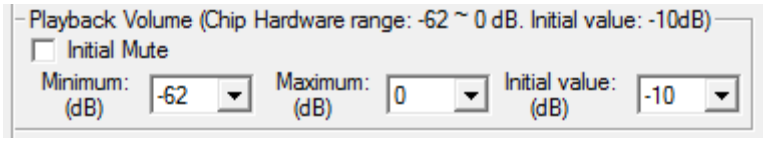
- **Enable SPDIF Out**
  Enable SPDIF Out Endpoint

- **Enable DSP (Playback and Record)**

Enable DSP process and use external I2S

- **Enable MCLK** (The Playback I2S Mode must be Slave.)
  Use internal MCLK

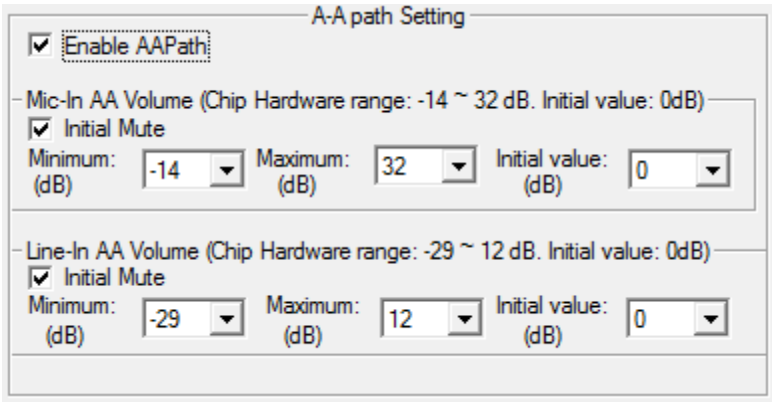
- **Playback Volume**



Initial Mute:
Set the Playback default status on mute.
Minimum (dB):
Set the Playback minimum volume
Maximum (dB):
Set the Playback minimum volume
Initial value:
Set the Playback minimum volume

(The volume range depends on the hardware spec.)

3. A-A Path Setting



- **Enable AA Path**

  Enable Analog Monitoring Path (This option will make USB topology changed.)

- **Mic-In AA Volume**

  Initial Mute:

  Set the Mic-In AA Path default status on mute.

  Minimum (dB):

  Set the Mic-In AA Path minimum volume

  Maximum (dB):

  Set the Mic-In AA Path minimum volume

  Initial value:

  Set the Mic-In AA Path minimum volume

- **Line-In AA Volume**

  Initial Mute:

  Set the Line-In AA Path default status on mute.

  Minimum (dB):

  Set the Line-In AA Path minimum volume

  Maximum (dB):

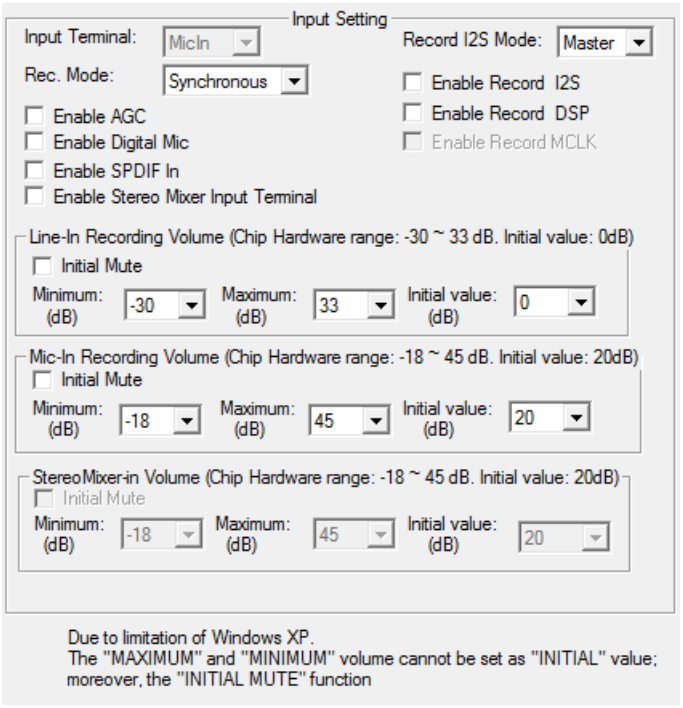
  Set the Line-In AA Path minimum volume

  Initial value:

  Set the Line-In AA Path minimum volume

  (All volume range depends on the hardware spec.)

4. Input Setting



- **Input Terminal**

  Set the Input device Endpoint in MicIn or LineIn.

  (If the current audio model only supports MicIn, this combo-box will be auto set to MicIn and grayed.)

- **Record I2S Mode**

  Set the I2S Mode to Master or Slave

- **Rec. Mode**

  Asynchronous:

  Host will not receive data with uniform length but depend on what record device receiving

- **Enable Record I2S**

  Enable Record I2S Mode

- **Enable AGC**

  Enable Automatic Gain Control

- **Enable Record DSP**
  Enable Record DSP

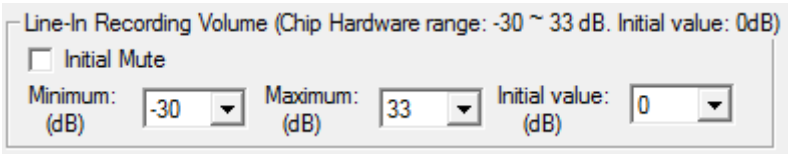
- **Enable Digital Mic**
  Enable Digital Mic Endpoint

- **Enable Record MCLK** (The Record I2S Mode must be Slave.)
  Enable Record MCLK

- **Enable SPDIF In** (The Rec. Mode must be Asynchronous.)
  Enable SPDIF In Endpoint (This option will make USB topology changed.)

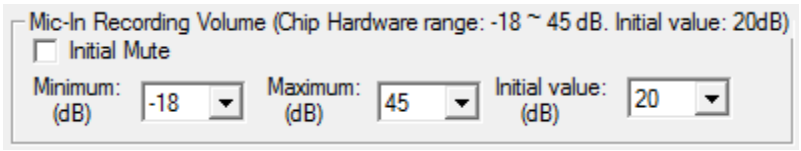
- **Enable Stereo Mixer Input Terminal**
  Enable Stereo Mixer Input Endpoint (This option will make USB topology changed.)

- **Line-In Recording Volume**



Initial Mute:
Set the Line-In Recording default status on mute.
Minimum (dB):
Set the Line-In Recording of minimum volume
Maximum (dB):
Set the Line-In Recording of maximum volume
Initial value:
Set the Line-In Recording of initial volume

■ **Mic-In Recording Volume**



Initial Mute:

Set the Mic-In Recording default status on mute.

Minimum (dB):

Set the Mic-In Recording of minimum volume

Maximum (dB):

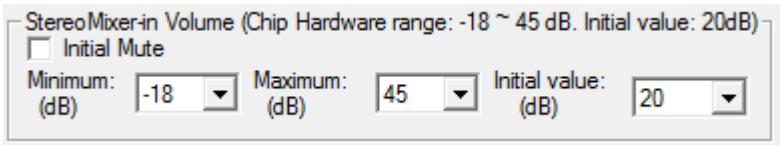
Set the Mic-In Recording of maximum volume

Initial value:

Set the Mic-In Recording of initial volume

■ **StereoMixer-In Recording Volume**

You must enable StereoMixer Input Terminal first, this part would be available.



Initial Mute:

Set the StereoMixer-In Recording default status on mute.

Minimum (dB):

Set the StereoMixer-In Recording of minimum volume

Maximum (dB):

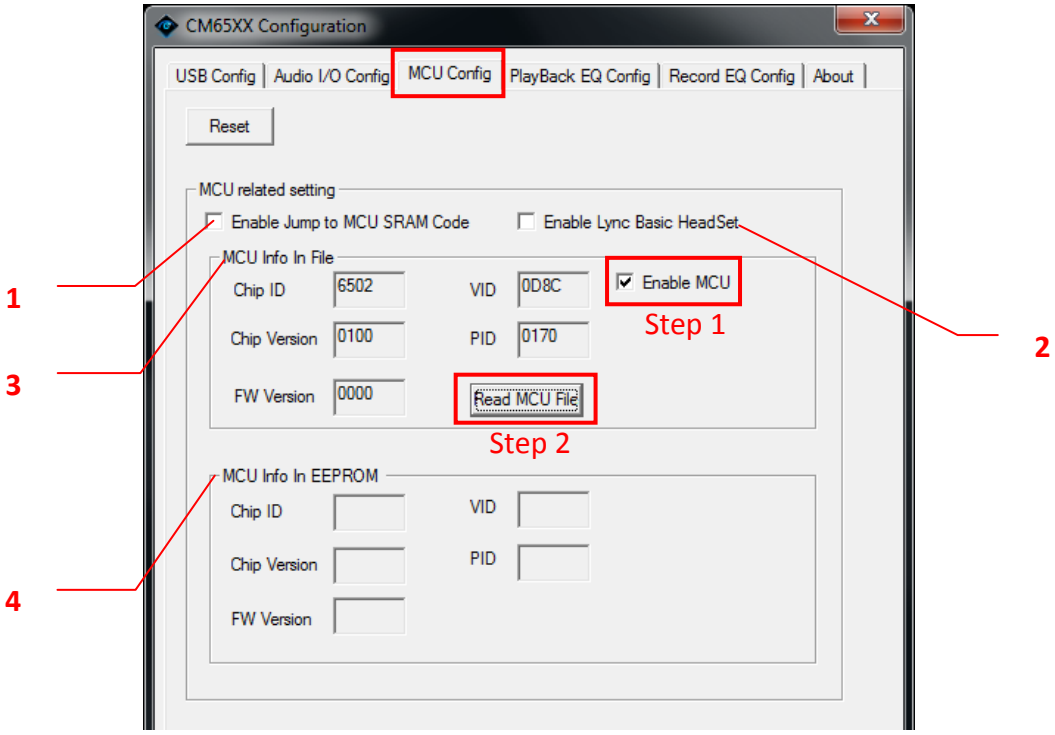
Set the StereoMixer-In Recording of maximum volume

Initial value:

Set the StereoMixer-In Recording of initial volume

(All the volume range depends on the hardware spec.)

5.3 MCU Config Page



1. Enable Jump to MCU SRAM Code

Enable to replace internal 8051 code

2. Enable Lync Basic Headset

Enable Lync Basic Headset

3. MCU Info In File

Step 1

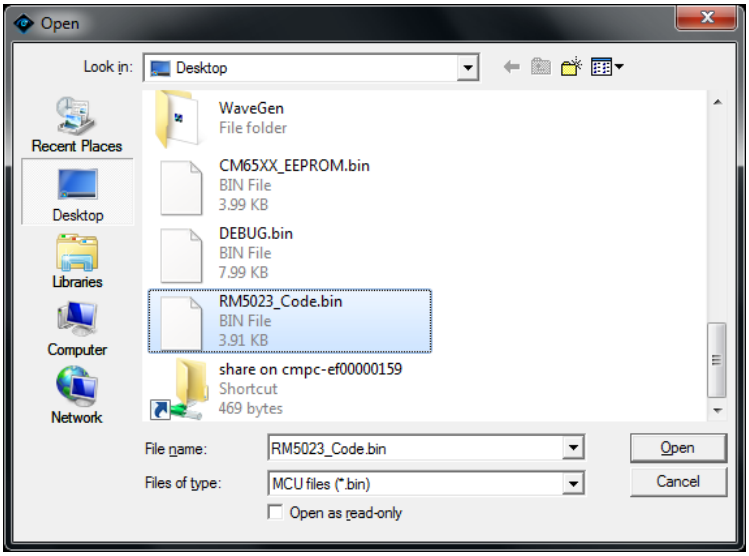
Check the “Enable MCU”

Step 2

Click on [Read MCU File]

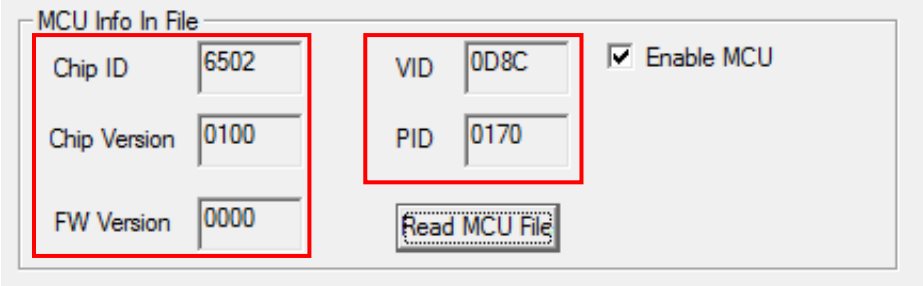
Step 3

Choose a MCU Code File



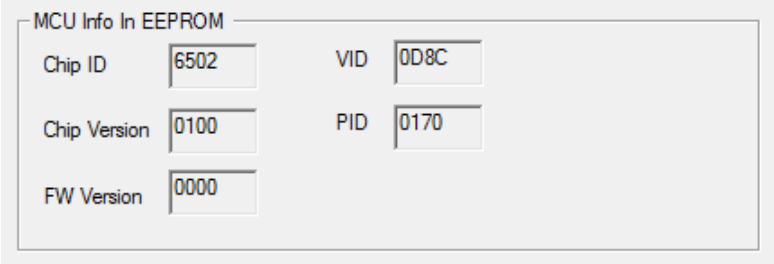
Step 4

After the MCU Code File loading, you can see the MCU Code content as below.



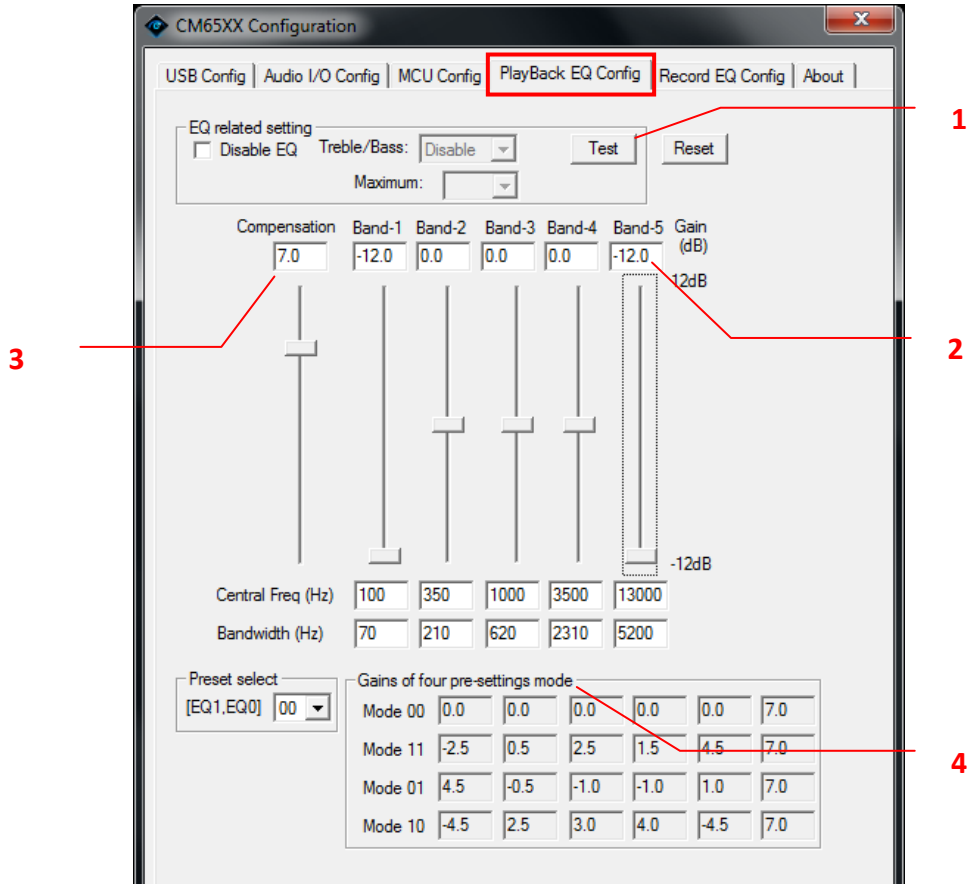
4. MCU Info In EEPROM

If the there already has the MCU code in EERPOM, you can see the related info as below.



5.5 PlayBack EQ Config Page

PlayBack EQ provides 4 preset modes; every mode can set 5 bands of gain level (dB).



1. Test Button

Click on [Test], it can apply "Gain", "Central Freq" and "Band width" settings, but it has not written to EPROM, only for preview and testing.

2. Gain level range

12dB ~ -12dB

3. *Compensation*

When enable EQ, the signal will be *attenuated* 5 *dB.*

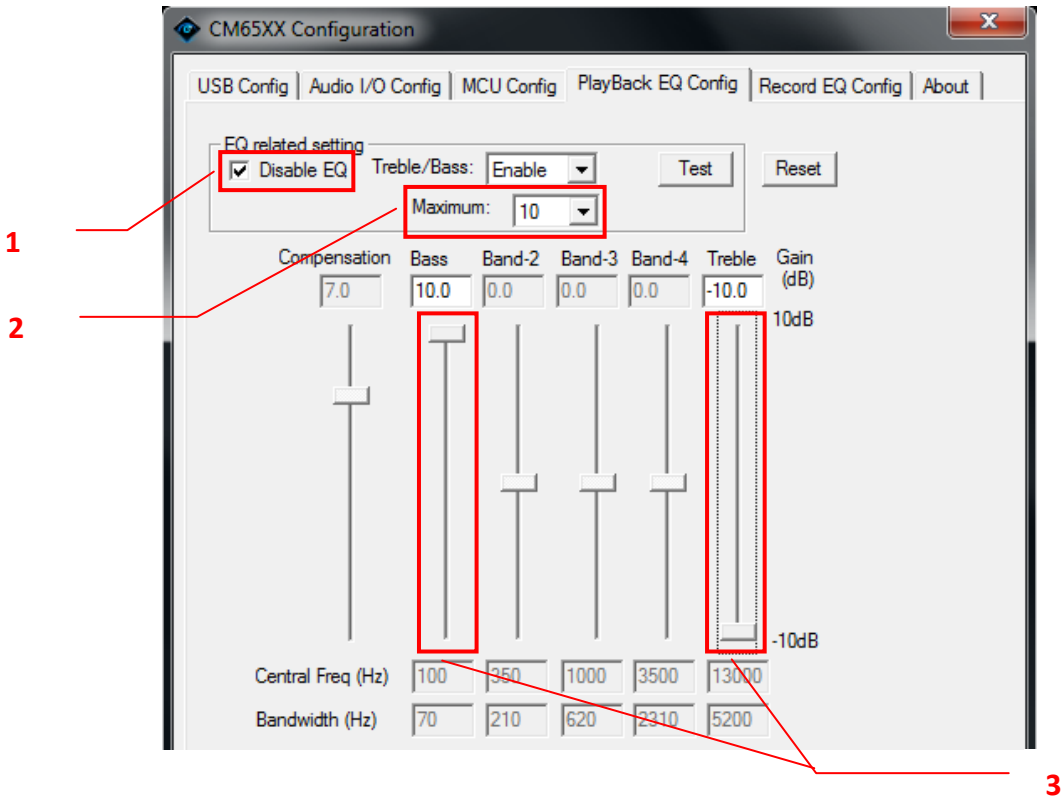
Compensation can increase overall gain.

4. Gains of 4 pre-settings mode

4 pre-setting mode for switching**,** Mode code are Mode 00, Mode 01, Mode 10 and Mode 11.

(Data in the EEPROM that 4 Preset Mode and 5 Band Gain, if EEPROM has no any data, this tool will display the default vlaue.)

■ Treble Bass



1. Disable EQ

Only when “Disable EQ” item is checked to make the Treble Bass is available.

2. Maximum

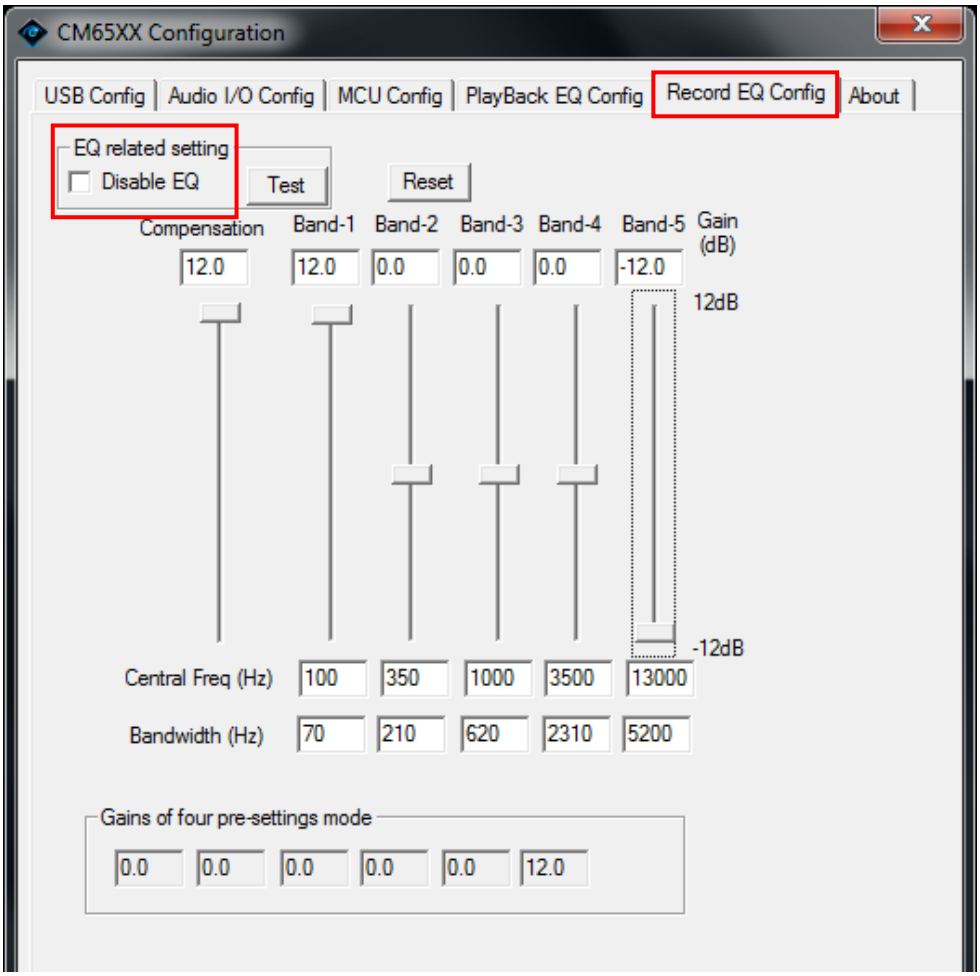
Gain range of values was determined by the “Maximum” item.

3. Treble and Bass Gain

When the Treble Bass was enabled, the “Band-1” will auto change to “Bass” and the “Band-5” will change to ”Treble”.

5.6 Record EQ Config Page

Record EQ provides one Mode, Record and Playback has the same way in EQ setting. (Refer to CH 5.5 PlayBack EQ Config Page)



Disable EQ

If this item is checked, all settings on this page will not be written into the EEPROM.

5.7 About

You can find the CM65XX Configuration tool version on this page.