QuecPython
Audio Play User Guide

LTE Standard Module Series

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About the Document

History

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-	2020-11-10	Kingka/Kenney	Creation of the document
1.0.0	2020-11-10	Kingka/Kenney	Preliminary

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1 Introduction

Currently, QuecPython supports to play audio files in MP3 or AMR format. This document describes how to play audio files on the QuecPython platform.

The applicable modules:

- EC100Y-CN (This document takes this module as an example)
- EC600S-CN

2 Play the Audio File

The default size of the user partition is 5 M, so the size of the audio file should not exceed 5 M, and sufficient space should be reserved for storing other user applications and files. This chapter mainly introduces how to upload audio files to the root directory of the user partition or to a certain directory under the root directory of the user partition and how to play the audio files.

2.1. Upload the Audio File to the Root Directory of User Partition

Step 1: Decompress the *QPYcom.zip* under *tools* directory of SDK package, get *QPYcom.exe*.

Step 2: Upload the audio file to the module by *QPYcom.exe*, please refer to *Quectel_EC100Y-CN_QuecPython_Basic_Operation_Guide*.

Step 3: Upload the audio file to the root directory of the user partition. Assuming the audio file name is *music.mp3*, open CMD in the directory where the audio file is located, and execute the following command.

```
QuecPyComTools.exe -d COM20 -b 115200 -f cp music.mp3 :/
```

- **Description**

The parameter COM20 after -d should be the actual CDC port.

- **Example**

```
C:\Users\jayceon.fu\Desktop\Audio_file_play_test >QuecPyComTools.exe -d COM20 -b 115200 -f cp music.mp3 :/
cp music.mp3 :/music.mp3

C:\Users\jayceon.fu\Desktop\Audio_file_play_test >
```

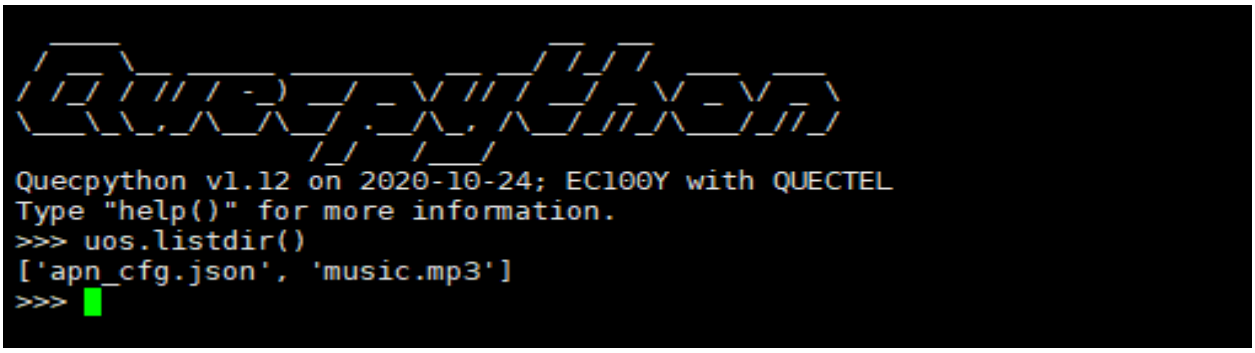
Step 4: Check whether the audio file exists under the root directory of User partition. Connect CDC port using Xshell, enter command line interface to execute the following command.

```
>>> uos.listdir()
```

- **Description**

>>> indicates it is in the command line interface.

- **Example**



Step 5: Play the audio file. Execute the following command one by one in the command line interface to play the audio file.

```
>>> import audio                    #Import the library of the audio play.
>>> a = audio.Audio(1)              #Create an audio object. Select headphone channel here, set to 1.
>>> a.play(1, 0, 'U:/music.mp3')    #Set the priority to 1, not allowed to break.
```

- **Description**

Create an audio object. Select headphone channel here, set to 1. Please refer to *Quectel_QuecPython_Class_Library_Introdcution*.

- **Example**

NOTE

The user partition drive letter is currently fixed as *U*, and must be an absolute path during playback, such as U:/path/filename, or U:/filename if it is placed directly in the root directory.

2.2. Upload the Audio File to the *audio* directory in Root Directory of User Partition

Step 1: Create *audio* directory. Execute the following command in the command line interface.

```
>>> uos.mkdir('audio')
```

- **Example**

```
>>> uos.mkdir('audio')
>>> uos.listdir()
['apn_cfg.json', 'audio']
>>>
```

Step 2: Disconnect Xshell from the CDC port. *QPYcom.exe* tool would fail to execute if the CDC port is occupied. (If you are using other tools, please disconnect the other tools from the CDC port.)

Step 3: Upload the audio file to the *audio* directory in the root directory of user partition. Assuming the audio file name is *music.mp3*, open CMD in the directory where the audio file is located, and execute the following command.

```
QuecPyComTools.exe -d COM20 -b 115200 -f cp music.mp3 :/audio/
```

- **Description**

The last "/" must be typed.

- **Example**

```
C:\Users\jayceon.fu\Desktop\Audio_file_play_test >QuecPyComTools.exe -d COM20 -b 115200 -f cp music.mp3 :/audio/
cp music.mp3 :/audio/music.mp3

C:\Users\jayceon.fu\Desktop\Audio_file_play_test>
```

Step 4: Check whether the audio file exists under the root directory of User partition. Re-connect CDC port using Xshell, enter command line interface to execute the following command.

```
>>> uos.listdir()
>>> uos.listdir('audio')
```

Step 5: Play the audio file. Execute the following command one by one in the command line interface to play the audio file.

```
>>> import audio                #Import the library of the audio play.
>>> a = audio.Audio(1)          #Create an audio object. Select headphone channel here, set to 1.
```

```
>>> a.play(1, 0, 'U:/audio/music.mp3')    #Set the priority to 1, not allowed to break.
```

- **Description**

Create an audio object. Select headphone channel here, set to 1. Please refer to *Quectel_QuecPython_Class_Library_Introdcution*.

- **Example**

```
>>> import audio
>>> a = audio.Audio(1)
>>> a.play(1, 0, 'U:/audio/music.mp3')
0
>>>
```

3 Delete the Audio File

This chapter mainly introduces how to delete audio files in the root directory of the user partition or in a certain directory under the root directory of the user partition.

3.1. Delete the Audio File in the Root Directory of User Partition

Step 1: Connect with CDC port using Xshell or other tools.

Step 2: Delete the audio file. Enter the command line interface to execute the following command.

```
>>> uos.remove('music.mp3')        #Delete the audio file.
>>> uos.listdir()                  #Check whether the file is deleted successfully.
```

- **Example**

```
>>> uos.listdir()
['apn_cfg.json', 'music.mp3']
>>> uos.remove('music.mp3')
>>> uos.listdir()
['apn_cfg.json']
>>>
```

The audio files in the root directory of the user partition have been deleted

3.2. Delete the Audio File in a Certain Directory under the Root Directory of User Partition

Step 1: Connect with CDC port using Xshell or other tools.

Step 2: Delete the audio file. Enter the command line interface to execute the following command.

```
>>> uos.remove('audio/music.mp3')   #Delete the audio file.
>>> uos.listdir('audio')            #Check whether the file is deleted successfully.
```

4 Pack the Audio File to User Partition

In practical application, users may pack audio files into user partition in advance, and then use tools to pack them into firmware and perform the upgrade on the device.

Step 1: Download the SDK package from http://qpy.quectel.com/down.html.

SDK

QuecPython 的 SDK。

File Name	Platform	Version	Date	Size	URL
QuecPython-SDK-EC100Y-V0.4	EC100Y	V0.4	2020-09-30	133MB	Click to Download

Figure 1: Download the SDK Package

Step 2: Enter *tools* directory under SDK package to decompress *littlefs_tools.zip*.

mount	2020/10/27 16:27	File Folder	
mklfs.exe	2020/8/22 16:54	Application	96 KB
使用说明.txt	2020/10/26 10:02	TXT Document	1 KB

Figure 2: The Files in littlefs_tools

Step 3: Put the audio files to be packed to the *littlefs_tools/mount* directory, take music.mp3 as an example.

apn_cfg.json	2020/10/20 17:44	JSON File	3 KB
music.mp3	2019/11/27 17:51	MP3 File	16 KB

Figure 3: Upload music.mp3 File in littlefs_tools/mount

NOTES

1. Please don't delete the default apn configuration file.
2. The default size of the user partition is 5 M, so the size of the audio file should not exceed 5 M, and sufficient space should be reserved for storing other user applications and files.

Step 4: Return to *littlefs_tools* directory, that is where *mklfs.exe* is located. Under this directory to open CMD and then execute the following command.

```
mklfs.exe -c mount -b 4096 -r 4096 -p 4096 -s 1048576 -i customer_fs.bin
```

- **Description**

1. The number after the -s parameter in the above command indicates the size of the file system image generated, in bytes. Here, a 1M image is generated, that is, 1024 x 1024Byte = 1048579 Bytes. If the user partition size changes, not 1 M, you need to modify this parameter according to the actual situation to generate a file image with matching size.
2. The default name of the image generated is *customer_fs.bi*, not supported to modify.

- **Example**

Step 5: If the above step is executed successfully, *customer_fs.bin* generates in *littlefs_tools* directory. Pack *customer_fs.bin* to firmware.

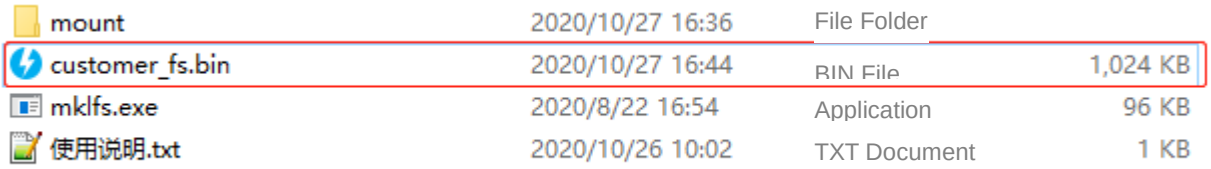


Figure 4: Pack the customer_fs.bin to the Firmware

5 Terms and Abbreviations

Table 1: Terms and Abbreviations

Abbreviation	Description
API	Application Programming Interface
SDK	Software Development Kit