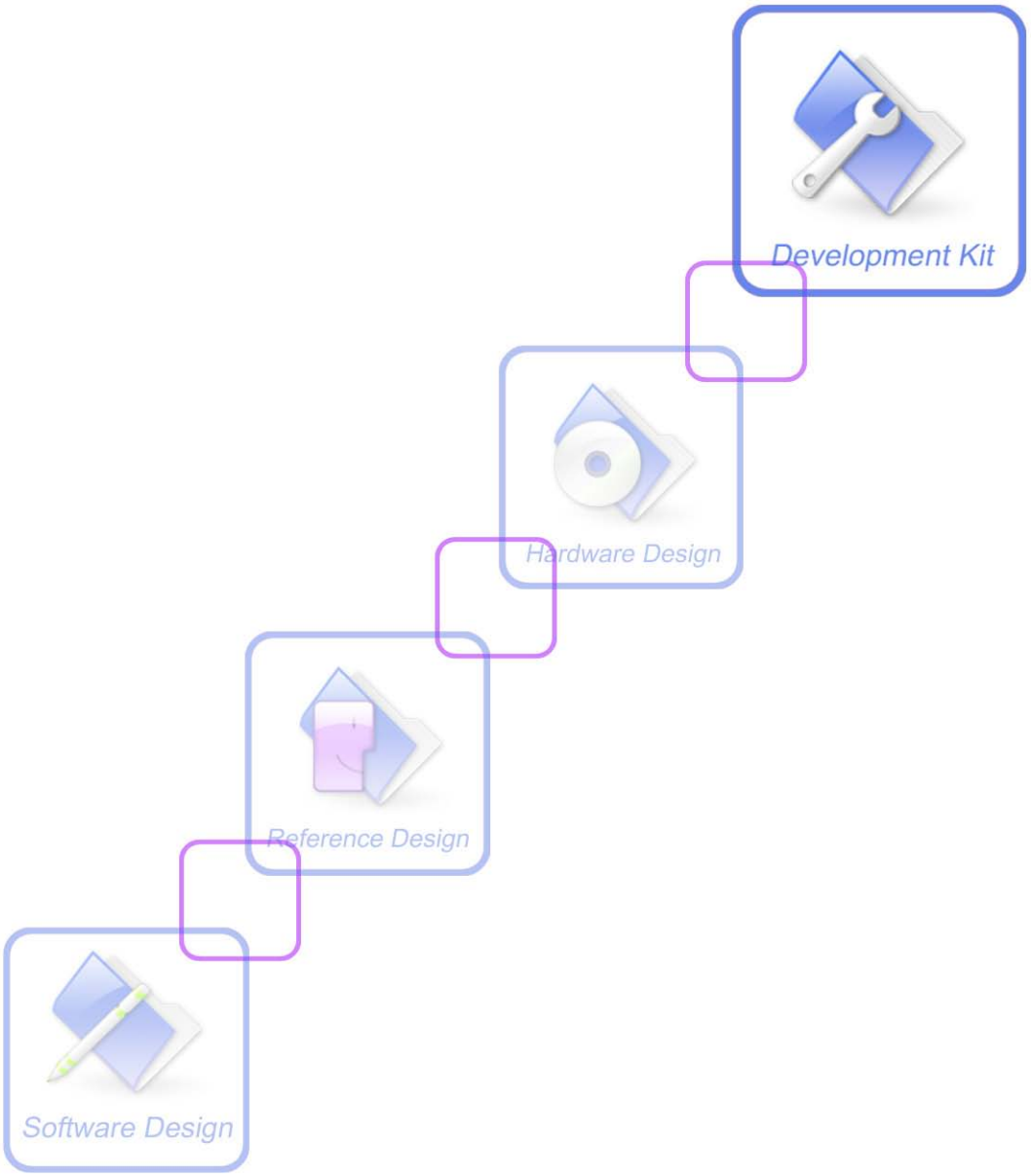
USB AUDIO Application Note



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Version History

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1. Introduction

1.1 Overview

This document gives the usage of SIM7100 USB AUDIO functions. User can get useful information about the SIM7100 USB AUDIO functions quickly through this document.

The USB AUDIO functions are provided in AT command format, and they are designed for customers to design their software PCM applications easily. User can access the USB AUDIO AT commands through UART/ USB interface which communicates with SIM7100 module.

SIM7100 USB AUDIO features:

- MO call of USB AUDIO flow
- MT call of USB AUDIO flow

1.2 Terms and Abbreviations

For the purposes of the present document, the following abbreviations apply:

- AT ATtention; the two-character abbreviation is used to start a command line to be sent from TE/DTE to TA/DCE
- USB AUDIO A method used for external MPU and the module to transferring software PCM data

2. USB AUDIO transferring method

2.1 USB AUDIO flow of MO call

The following commands give an example of MO call for USB AUDIO:

1) External MPU runs "ATD…" command to dial the destination phone number

ATD 10086;

2) Module reports "VOICE CALL: BEGIN" to indicate that the voice call is connected now. External MPU runs "AT+CPCMREG=1" command to begin the PCM data transferring on the USB Audio port.

VOICE CALL: BEGIN
AT+CPCMREG=1

3) Now the external MPU and the module can exchange software PCM data until the call is

hung up.

Following is the USB AUDIO flow diagram of MO call.

The black arrow lines indicate using AT port, the blue arrow lines indicate Audio data using Audio port.

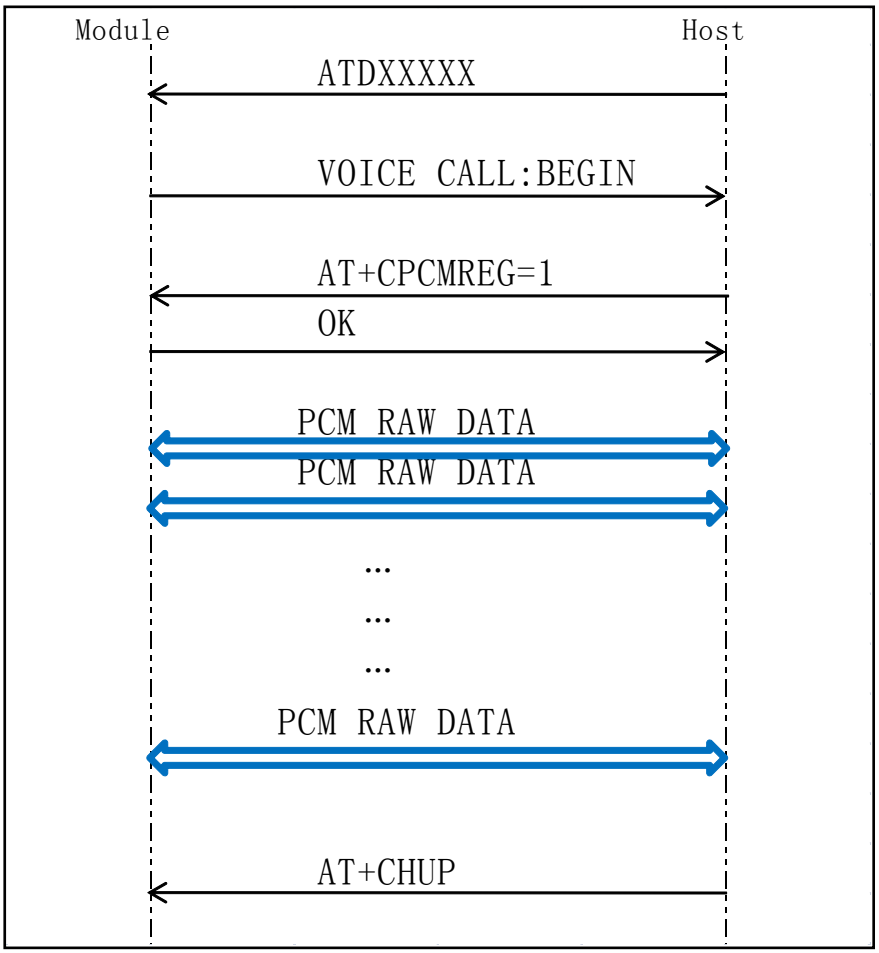

Diagram 1 USB AUDIO flow of MO call

2.2 USB AUDIO flow of MT call

The following commands give an example of MT call for USB AUDIO:

1) Module reports " VOICE CALL: BEGIN " to indicate that the voice call is connected now. External MPU runs "AT+CPCMREG=1" command to begin the PCM data transferring on the USB DIAG port.

VOICE CALL: BEGIN

AT+CPCMREG=1

2) Now the external MPU and the module can exchange software PCM data until the call is

hung up.

Following is the USB AUDIO flow diagram of MO call.

The black arrow lines indicate using AT port, the blue arrow lines indicate Audio data using Audio port.

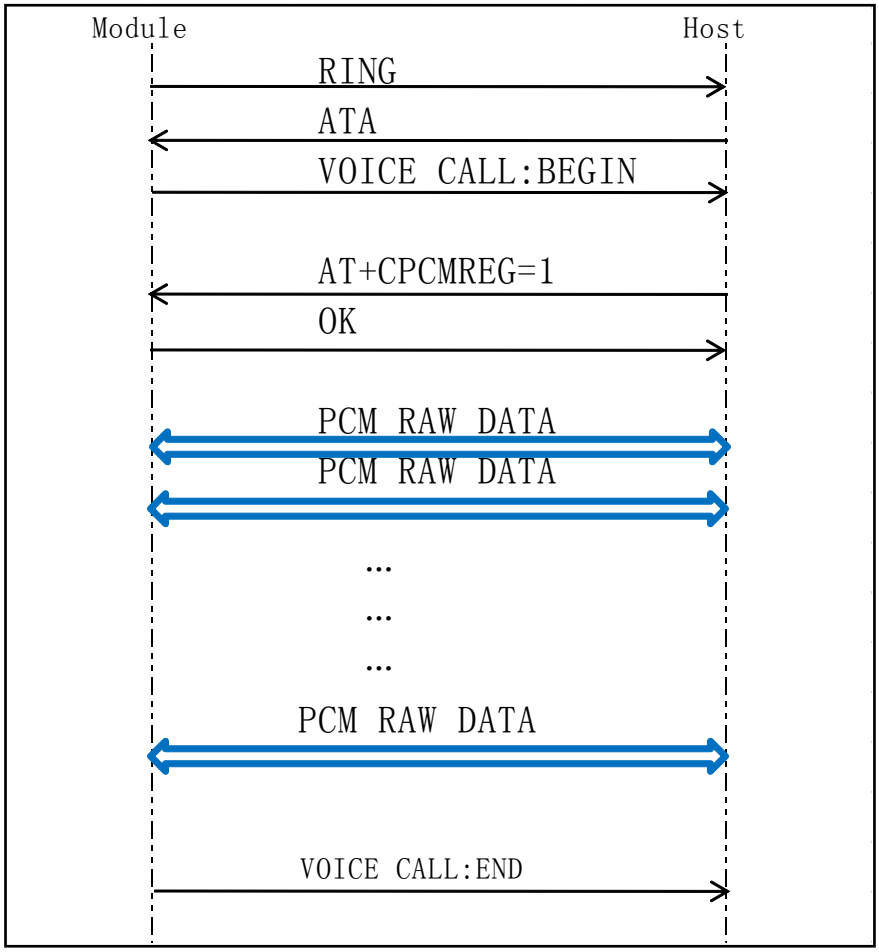

Diagram 1 USB AUDIO flow of MT call

2.3 USB AUDIO PCM data format

USB audio PCM data format is 8K sample rate, 16 bit linear.

AT command use “AT Port 9001” (black circle line marked)

Audio data use “Audio 9001” (blue crrcle line marked)

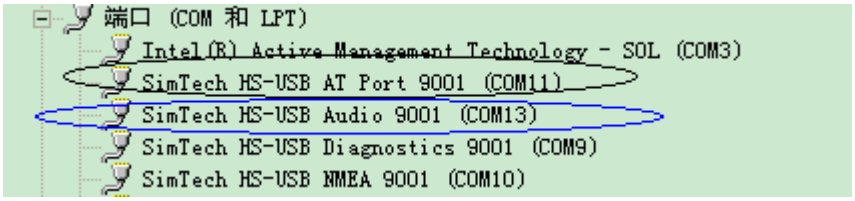

Diagram 3 USB Port

Contact us

Shanghai SIMCom Wireless Solutions Ltd.
Add: Building A, SIM Technology Building, No.633, Jinzhong Road, Changning District 200335
Tel: +86 21 3252 3300
Fax: +86 21 3252 3301
URL: http:/www.sim.com/wm/