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|-------------------------|--------------|------------------------|----------------|
| Author: Sierra Wireless |              | Date: August 14, 2012  |                |
| APN Content Level       | BASIC        | INTERMEDIATE           | ✓ ADVANCED     |
| Confidentiality         |              | Public                 | ✓ Private      |
| Hardware Compatibility  | Product Line | AirPrime               | Series         |
|                         |              |                        | SL5010         |
|                         |              | SL8080, SL8082, SL8084 | SL8090, SL8092 |
| Software Compatibility  | ALL          |                        |                |



## 1 Version

Application Notes may be updated over their lifetime. To ensure your design with the correct version, please check the application notes page in [www.sierrawireless.com](http://www.sierrawireless.com) for latest versions.

## 2 Introduction

This Application Note (APN) is provided to Sierra Wireless distributors and clients to aid more rapid development of embedded applications using the Sierra Wireless portfolio of cellular solutions. To request a new application note, contact your regional Sierra Wireless Product Marketing Manager.

## 3 Overview

This Application Note provides a schematic diagram example of a PCM codec for the AirPrime SL series. Note that acoustic performance tuning is not covered in this document.

Because the operating voltage of the AirPrime SL series PCM interface (1.8V) does not match the operating voltage of W681360YG (3V), the PCM codec used on the AirPrime SL series development kit (1400746-B), a level shifter (ST2378E) is required.

## 4 AirPrime SL Series PCM Features

AirPrime SL6087's PCM interface feature is different from that of AirPrime SL5010's and AirPrime SL80xx's. The PCM codec (W681360YG) can support both PCM interface features.

## 5 AT Commands

### 5.1 SL6087

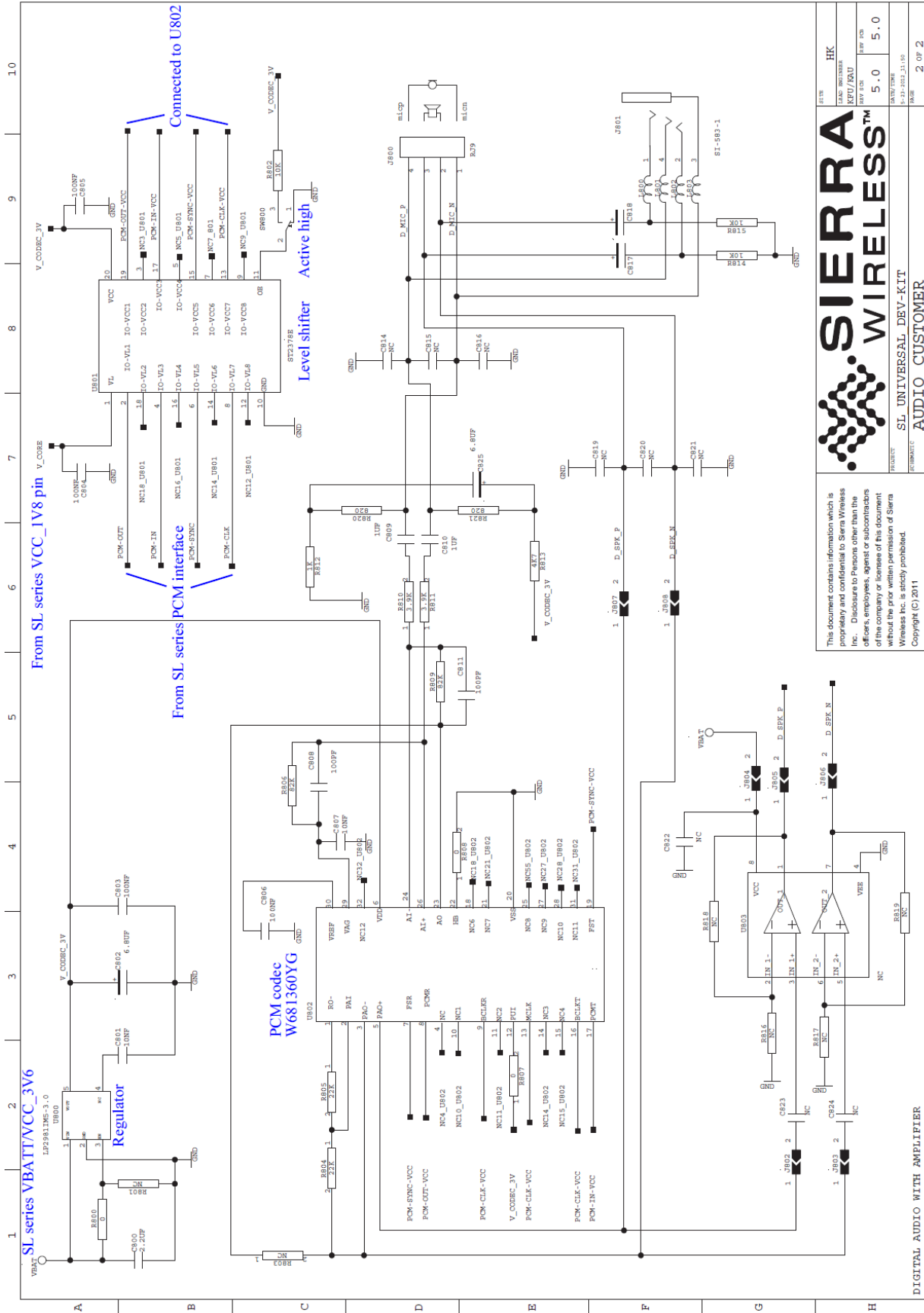
`AT+SPEAKER=9` should be used to activate the PCM interface.

### 5.2 SL5010 & SL80xx

`AT!AVSETPROFILE=7,0,0,0,x` (where x is the volume level) should be used to activate and configure the PCM interface.

`AT!AVEXTPCMCFG=0,2,1` should be used to configure the PCM features.

The AT commands above must be set properly in order to activate the PCM interface and should match with the PCM codec features. Voice commands set can be found in documents [5] AT Commands Interface Guide for Firmware 7.47 and [6] AirPrime UMTS Extended AT Guide.



## 6 Reference Documents

- [1] AirPrime SL501x Product Technical Specification & Customer Design Guidelines  
Reference number: 4110802
- [2] AirPrime SL6087 Product Technical Specification & Customer Design Guidelines  
Reference number: 4111952
- [3] AirPrime SL808x Product Technical Specification & Customer Design Guidelines  
Reference number: 4111992
- [4] AirPrime SL809x Product Technical Specification & Customer Design Guidelines  
Reference number: 4111941
- [5] AT Commands Interface Guide for Firmware 7.47  
Reference number: 4111703
- [6] AirPrime UMTS Extended AT Guide  
Reference number: 2130616

## 7 Package Deliverables

This application note is delivered as a single PDF file as follows:

| Filename   | Description                                       |
|--|---|
| AirPrime – SL Series – PCM Codec – Application Note – Rev1.0.pdf | PCM Codec for AirPrime SL Series application note |

## 8 Software Compatibility Matrix

| Firmware | Open AT Application Framework | Libraries |
|----------|-------------------------------|-----------|
| ALL      | N/A                           | N/A       |

## 9 Support

For direct clients: contact your Sierra Wireless FAE

For distributor clients: contact your distributor FAE

For distributors: contact your Sierra Wireless FAE

## 10 Document History

| Version | Date            | History  |
|---------|-----------------|----------|
| 1.0     | August 14, 2012 | Creation |

## 11 Legal Notice

### Important Notice

Due to the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e., have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Sierra Wireless modem are used in a normal manner with a well-constructed network, the Sierra Wireless modem should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Sierra Wireless accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sierra Wireless modem, or for failure of the Sierra Wireless modem to transmit or receive such data.

### Safety and Hazards

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*Note: Some airlines may permit the use of cellular phones while the aircraft is on the ground and the door is open. Sierra Wireless modems may be used at this time.*

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