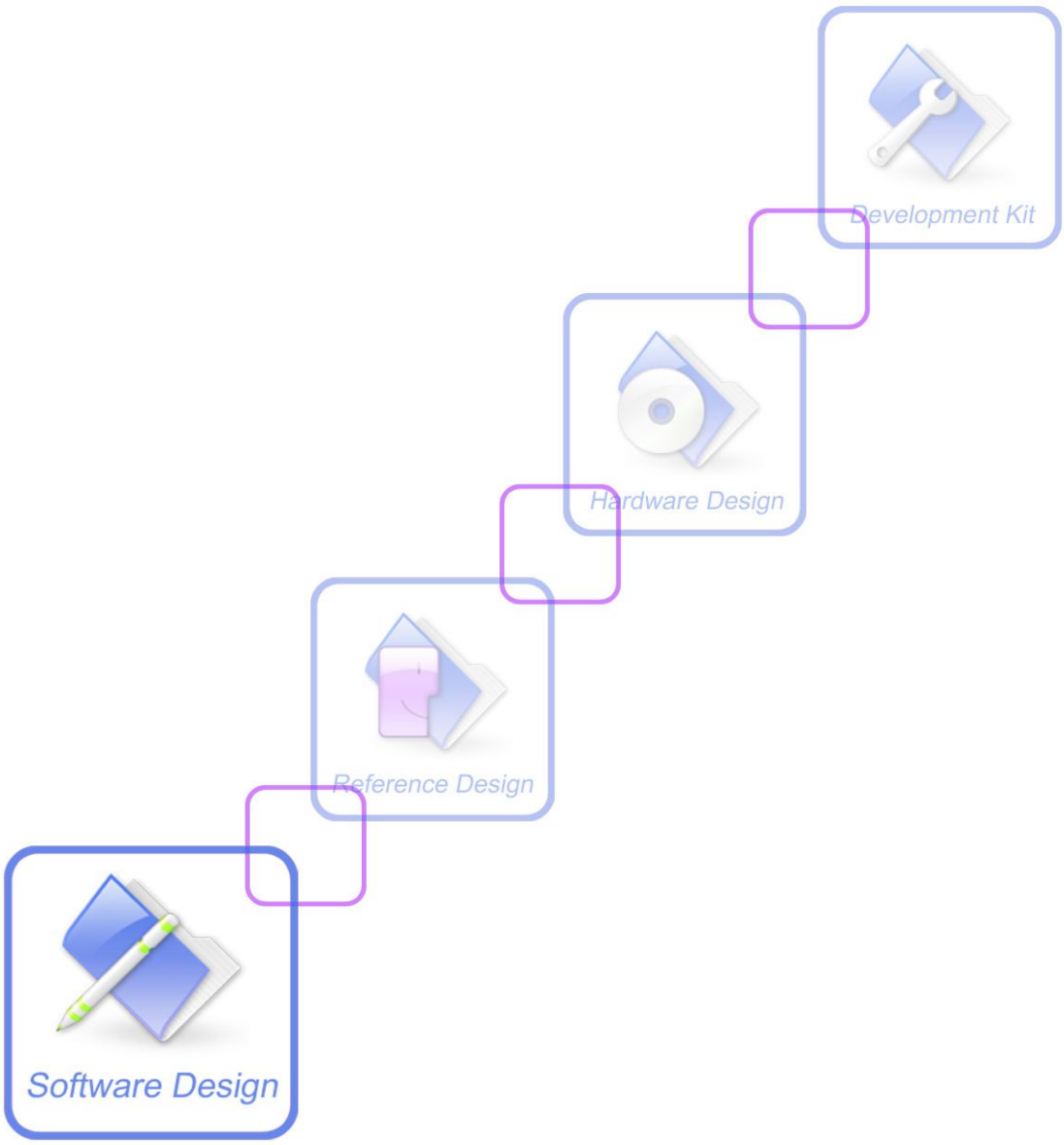
A company of SIM Tech

SIM5360 Network Cell Info Application Note



Document Title:	SIM5360 Network Cell Info Application Note
Version:	0.01
Date:	2014-05-30
Status:	Release
Document ID:	SIM5360_Network_Cell_Info_Application_Note_V0.01

General Notes

SIMCom offers this information as a service to its customers, to support application and engineering efforts that use the products designed by SIMCom. The information provided is based upon requirements specifically provided to SIMCom by the customers. SIMCom has not undertaken any independent search for additional relevant information, including any information that may be in the customer's possession. Furthermore, system validation of this product designed by SIMCom within a larger electronic system remains the responsibility of the customer or the customer's system integrator. All specifications supplied herein are subject to change.

Copyright

This document contains proprietary technical information which is the property of SIMCom Limited., copying of this document and giving it to others and the using or communication of the contents thereof, are forbidden without express authority. Offenders are liable to the payment of damages. All rights reserved in the event of grant of a patent or the registration of a utility model or design. All specification supplied herein are subject to change without notice at any time.

Copyright © Shanghai SIMCom Wireless Solutions Ltd. 2014

Version History

Version	Chapter	Comments
V0.01	New Version	

Contents

Version History 2
Contents 3
1 Introduction 4
1.1 Overview 4
1.2 References 4
1.3 Terms and Abbreviations 4
2 Command Example 5
2.1 Module Initialization 5
2.2 Command Description 5
2.3 Command Example 5
2.3.1 Get GSM cell info 5
2.3.2 Get WCDMA Active/neighbor set info 6
Contact us 8

1 Introduction

1.1 Overview

This document describes how to get network cell info using SIMCOM module network AT interface. The detail describe of Network AT INTERFACE please see document AT Commands Set. And this document mainly give out the AT command example to suggest how to use the interface.

1.2 References

The present document is based on the following documents:

[1] SIMCOM_SIM5360_ATC_EN_VX.XX.doc.

1.3 Terms and Abbreviations

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

- MCC Mobile Country Code
- MNC Mobile Network Code
- ARFCN Assigned Radio Channel
- CELL ID Cell Identifier
- LAC Localization Area Code
- C1 Coefficient for Base Station Selection
- C2 Coefficient for Cell Re-Selection
- TE Terminal Equipment; e.g. a computer (equal to DTE)
- UE User Equipment
- rxlev Received Signal Strength in dBm
- BSIC Base Station Identification Code
- PSC Primary Synchronization Code of the Cell
- SSC Secondary Synchronization Code
- FREQ Downlink Frequency of the Cell
- ECIO Ec/Io
- RSCP CPICH RSCP
- SIM Subscriber Identity Module
- WCDMA Wideband Code Division Multiple Access

2 Command Example

2.1 Module Initialization

When the module is in online state, it will camp on someone network if existed; If SIM card inserted and everything is ok, the module will get full service; If no SIM card inserted, the module will get limited service; No matter in full service or limited service state, the network AT COMMANDS can get the system cell info.

2.2 Command Description

AT+CNSMOD	Current system mode	When module camped on someone network, or changed from one network to another, AT+CNSMOD can get the current system mode; If special preferred system mode to be set to phone, please using AT+CNMP
AT+CNMP	Preferred system mode	Regularly this command is to set the preferred system mode;
AT+MONI	GSM cell info	If the module camped on GSM cell, just like +CNSMOD=1, the command can get serving cell info, e.g., mcc, mnc, arfcn, bsic, cell id, lac, c1-c2... If adjacent cell existed, this command can also get the neighbor cell info, e.g., arfcn, cell id, lac, rxlev, c1-c2…
AT+CRUS	WCDMA cell set info	If the module camped on WCDMA cell, just like +CNSMOD=4, the command can get active set info, e.g., psc, ssc, cell id, freq, ecio, rscp... If sync neighbor set not empty, the command can get sync neighbor set info, e.g. psc, ssc, freq, ecio, rscp… If async neighbor set not empty, the command can get async neighbor set info, e.g. psc, ssc, freq, ecio, rscp…
AT+CNLSA	Network limited service allowed	Most network operation commands are only allowed in full service state, and CNLSA value is 0; If the CNLSA value is set to 1, the most network operation commands can also work in limited service state.

2.3 Command Example

2.3.1 Get GSM cell info

Input command	Response	Note

Query current registration state		
AT+CREG?	+CREG: 0,2 OK	Not in full service
Set limited service allowed		
AT+CNLSA=1	OK	Limited service allowed
Query SIM PIN state		
AT+CPIN?	+CME ERROR: SIM not inserted	SIM not inserted
Query current system mode		
AT+CNSMOD?	+CNSMOD: 4 OK	WCDMA state
Set preferred system mode to gsm only		
AT+CNMP=13	OK	
Query current system mode		
AT+CNSMOD?	+CNSMOD: 1 OK	Now in gsm mode
Query gsm cell info		
AT+MONI?	+MONI: CMCC,BSIC: 31,RXQual: 255,LAC: 6166,Id: 63905,ARFCN: 81,PWR: -66dbm,C1:33-C2:143 +MONI: Adj Cell1,[LAC: 6166,Id: 61859],ARFCN: 572,PWR: -76dbm,C1:22-C2:132 +MONI: Adj Cell2,[LAC: 6166,Id: 62706],ARFCN: 582,PWR: -84dbm,C1:18-C2:136 +MONI: Adj Cell3,[LAC: 6166,Id: 61858],ARFCN: 568,PWR: -93dbm,C1:5-C2:115 +MONI: Adj Cell4,[LAC: 6166,Id: 61857],ARFCN: 565,PWR: -93dbm,C1:5-C2:115 OK	

2.3.2 Get WCDMA Active/neighbor set info

Input command	Response	Note
Query current registration state		
AT+CREG?	+CREG: 0,2 OK	Limited service
Set limited service allowed		
AT+CNLSA=1	OK	Limited service allowed
Query SIM PIN state		
AT+CPIN?	+CME ERROR: SIM not inserted	SIM not inserted

Query current system mode		
AT+CNSMOD?	+CNSMOD: 1 OK	GSM state
Set preferred system mode to WCDMA only		
AT+CNMP=14	OK	
Query current system mode		
AT+CNSMOD?	+CNSMOD: 4 OK	Now in WCDMA mode
Query active/neighbor set info		
AT+CRUS?	+CRUS: Active SET,1,279,10663,0,0,3.0,3.0,70,0,0,1536 +CRUS: Sync Neighbor SET,NULL +CRUS: Async Neighbor SET,1,471,10663,0,0,31.5,24.5,0,0 OK	

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/