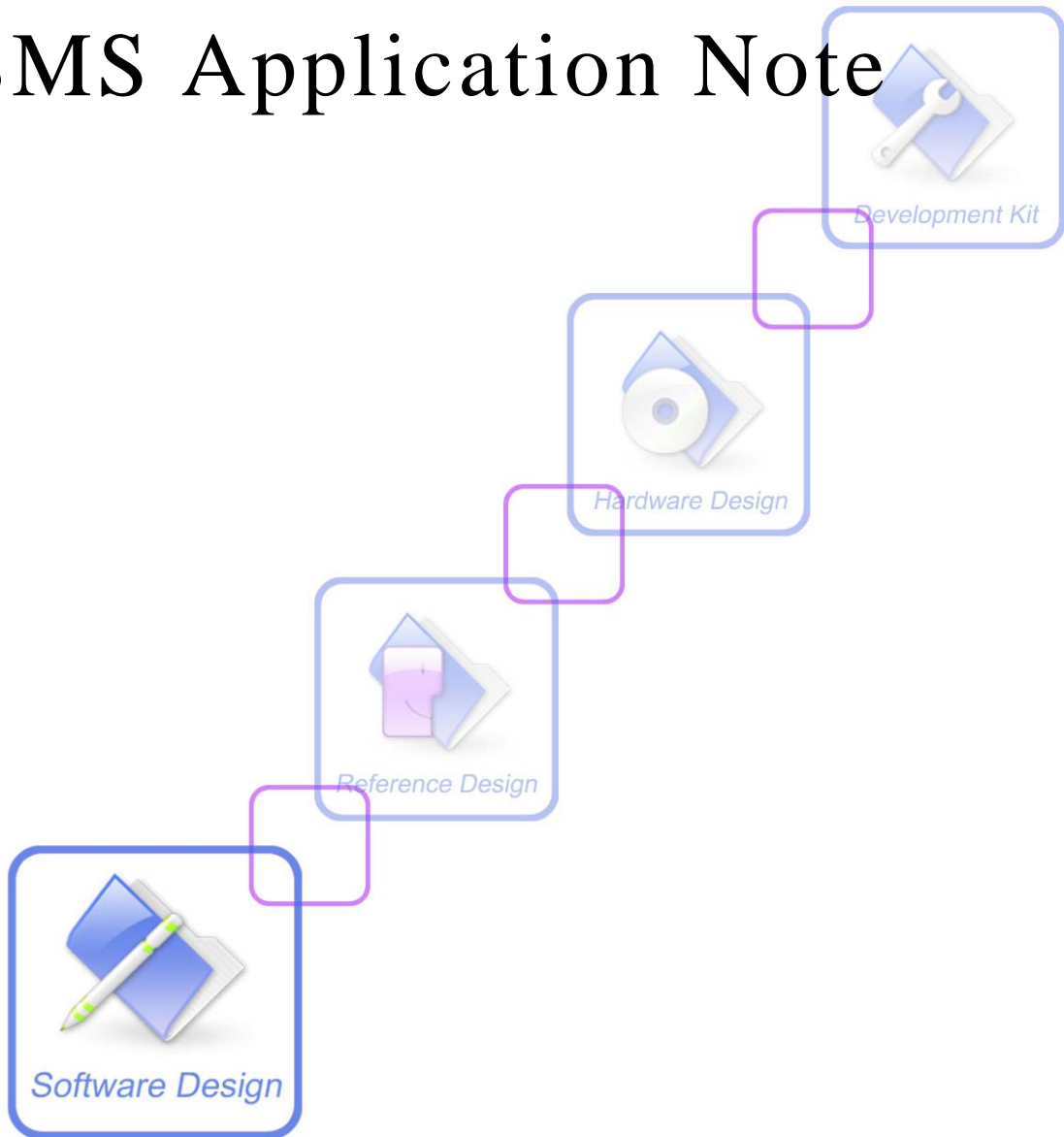


SMS Application Note



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Version History

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1. Introduction

1.1 Overview

This document gives the usage of SIM5360 SMS functions, user can get useful information about the SIM5360 SMS functions quickly through this document.

The SMS functions are provided in AT command format, and they are designed for customers to design their SMS applications easily. User can access these SMS AT commands through UART/USB interface which communicates with SIM5360 module.

SIM5360 SMS features:

- Manage SMS storage
- Read ,write and delete SMS messages in preferred storage
- Edit SMS message and send it
- Receive SMS message
- Set sending and receiving parameters

1.2 References

The present document is based on the following documents:

[1] SIMCOM_SIM5360_ATC_EN_V0.05.doc.

1.3 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
- CSD Circuit Switched Data
- DCE Data Communication Equipment; Data Circuit terminating Equipment
- DCS Digital Cellular Network
- DTE Data Terminal Equipment
- DTMF Dual Tone Multi-Frequency
- EDGE Enhanced Data GSM Environment
- EGPRS Enhanced General Packet Radio Service
- GPIO General-Purpose Input/Output
- GPRS General Packet Radio Service
- GSM Global System for Mobile communications
- HSDPA High Speed Downlink Packet Access

- HSUPA High Speed Uplink Packet Access
- I2C Inter-Integrated Circuit
- IMEI International Mobile station Equipment Identity
- IMSI International Mobile Subscriber Identity
- ME Mobile Equipment
- MMS Multimedia message system
- MO Mobile-Originated
- MS Mobile Station
- MT Mobile-Terminated; Mobile Termination
- PCS Personal Communication System
- PDU Protocol Data Unit
- PIN Personal Identification Number
- PUK Personal Unlock Key
- SIM Subscriber Identity Module
- SMS Short Message Service
- SMS-SC Short Message Service – Service Center
- TA Terminal Adaptor; e.g. a data card (equal to DCE)
- TE Terminal Equipment; e.g. a computer (equal to DTE)
- UE User Equipment
- UMTS Universal Mobile Telecommunications System
- URL Uniform resource locator
- USIM Universal Subscriber Identity Module
- WCDMA Wideband Code Division Multiple Access

2. SMS Quick Start – Storage

The purpose of this section is to help get you start with SMS storage

2.1 Set preferred message storage

Select memory storages `<mem1>`, `<mem2>` and `<mem3>` to be used for reading, writing, etc. These values will be saved after the module restarts

<code><mem1></code>
String type, memory from which messages are read and deleted (commands List Messages <code>AT+CMGL</code> , Read Message <code>AT+CMGR</code> and Delete Message <code>AT+CMGD</code>).
“ME” and “MT” FLASH message storage
“SM” SIM message storage
“SR” Status report storage
<code><mem2></code>
String type, memory to which writing and sending operations are made (commands Send Message from Storage <code>AT+CMSS</code> and Write Message to Memory <code>AT+CMGW</code>).
“ME” and “MT” FLASH message storage
“SM” SIM message storage
“SR” Status report storage
<code><mem3></code>
String type, memory to which received SMS is preferred to be stored (unless forwarded directly to TE; refer command New Message Indications <code>AT+CNMI</code>).
“ME” FLASH message storage
“SM” SIM message storage

`AT+CPMS="SR","ME","SM"`

3. Read SMS

3.1 List SMS messages from preferred store

This command is used to return messages with status value `<stat>` from message storage `<mem1>` to the TE. If the status of the message is 'received unread', the status in the storage changes to 'received read'.

```
AT+CMGL="ALL"  
+CMGL: 1,"STO UNSENT","+10011",,,145,4
```

```
Hello World
OK
```

3.2 Read message

This command is used to return message with location value <index> from message storage <mem1> to the TE.

```
AT+CMGR=1
+CMGR: "STO UNSENT", "+10011", 145,17,0,0,167, "+8613800100500",145,4
Hello World
OK
```

3.3 Delete SMS

This command is used to delete message from preferred message storage <mem1> location <index>. If <delflag> is present and not set to 0 then the ME shall ignore <index> and follow the rules for <delflag> shown below.

```
AT+CMGD=1
OK
```

3.4 Write message to memory

```
AT+CMGW="13012832788" <CR> (TEXT MODE)
ABCD<ctrl-Z/ESC>
+CMGW:1
OK
```

4. Edit/Send SMS

4.1 Send message from Scratch

send message from a TE to the network (SMS-SUBMIT).:

```
AT+CMGS="13012832788"<CR>(TEXT MODE)
```



```
> ABCD<ctrl-Z/ESC>
+CMGS: 46
OK
```

4.2 Send message from Storage

send message with location value [<index>](#) from preferred message storage [<mem2>](#) to the network (SMS-SUBMIT or SMS-COMMAND):

```
AT+CMSS=3
+CMSS: 0
OK
AT+CMSS=3,"13012345678"
+CMSS: 55
OK
```

5. Receive SMS

5.1 New message indications to TE

AT+CNMI command is used to select the procedure how receiving of new messages from the network is indicated to the TE when TE is active, e.g. DTR signal is ON. If TE is inactive (e.g. DTR signal is OFF). If set [<mt>](#)=2, [<mt>](#)=3 or [<ds>](#)=1, make sure [<mode>](#)=1, otherwise it will return error.

These values will be saved after the module restarts

```
<mode>
```

<u>0</u>	– Buffer unsolicited result codes in the TA. If TA result code buffer is full, indications can be buffered in some other place or the oldest indications may be discarded and replaced with the new received indications.
1	– Discard indication and reject new received message unsolicited result codes when TA-TE link is reserved (e.g. in on-line data mode). Otherwise forward them directly to the TE.
2	– Buffer unsolicited result codes in the TA when TA-TE link is reserved (e.g. in on-line data mode) and flush them to the TE after reservation. Otherwise forward them directly to the TE.

```
<mt>
```

The rules for storing received SMS depend on its data coding scheme, preferred memory storage

([AT+CPMS](#)) setting and this value:

- 0 – No SMS-DELIVER indications are routed to the TE.
- 1 – If SMS-DELIVER is stored into ME/TA, indication of the memory location is routed to the TE using unsolicited result code: +CMTI: [<mem3>](#),[<index>](#).
- 2 – SMS-DELIVERs (except class 2 messages and messages in the message waiting indication group (store message)) are routed directly to the TE using unsolicited result code:
 +CMT:[[<alpha>](#)],[<length>](#)<CR><LF>[<pdu>](#) (PDU mode enabled); or
 +CMT:[<oa>](#),[[<alpha>](#)],[<scts>](#)[[<tooa>](#),[<fo>](#),[<pid>](#),[<dcs>](#),[<sca>](#),[<tosca>](#),[<length>](#)]
 <CR> <LF>[<data>](#)
 (text mode enabled, about parameters in italics, refer command Show Text Mode Parameters [AT+CSDH](#)).
- 3 – Class 3 SMS-DELIVERs are routed directly to TE using unsolicited result codes defined in [<mt>](#)=2. Messages of other data coding schemes result in indication as defined in [<mt>](#)=1.

<bm>

The rules for storing received CBMs depend on its data coding scheme, the setting of Select CBM Types ([AT+CSCB](#)) and this value:

- 0 – No CBM indications are routed to the TE.
- 2 – New CBMs are routed directly to the TE using unsolicited result code:
 +CBM: [<length>](#)<CR><LF>[<pdu>](#) (PDU mode enabled); or
 +CBM: [<sn>](#),[<mid>](#),[<dcs>](#),[<page>](#),[<pages>](#)<CR><LF>[<data>](#) (text mode enabled)

<ds>

- 0 – No SMS-STATUS-REPORTs are routed to the TE.
- 1 – SMS-STATUS-REPORTs are routed to the TE using unsolicited result code:
 +CDS: [<length>](#)<CR><LF>[<pdu>](#) (PDU mode enabled); or
 +CDS: [<fo>](#),[<mr>](#),[[<ra>](#)],[[<tora>](#)],[<scts>](#),[<dt>](#),[<st>](#) (text mode enabled)
- 2 – If SMS-STATUS-REPORT is stored into ME/TA, indication of the memory location is routed to the TE using unsolicited result code: +CDSI: [<mem3>](#),[<index>](#).

<bfr>

- 0 – TA buffer of unsolicited result codes defined within this command is flushed to the TE when [<mode>](#) 1 to 3 is entered (OK response shall be given before flushing the codes).
- 1 – TA buffer of unsolicited result codes defined within this command is cleared when [<mode>](#) 1 to 3 is entered.

6. SMS AT Command Samples

Commands and Responses	Comments
AT+CMGF=1 OK	Set SMS system into text mode, as opposed to PDU mode.

AT+CPMS="SM","SM","SM" +CPMS: 0,40,0,40,0,40 OK	Select memory storages.
AT+CNMI=2,1 OK	Set new message indications to TE.
AT+CMGS="+861358888xxxx" >This is a test <Ctrl+Z> +CMGS:34 OK	Set new message indications to TE.
+CMTI:"SM",1	Unsolicited notification of the SMS arriving.
AT+CMGR=1 +CMGR: "REC UNREAD", "+861358888xxxx",,"08/01/30, 20:40:31+00" This is a test OK	Read SMS message that has just arrived. NOTE: The number should be the same as that given in the +CMTI notification.
AT+CMGR=1 +CMGR: "REC READ", "+861358888xxxx",,"08/01/30 , 20:40:31+00" This is a test OK	Reading the message again changes the status to "READ" from "UNREAD".
AT+CMGS="+861358888xxxx" >Test again<Ctrl+Z> +CMGS:35 OK	Send another SMS to myself.
+CMTI:"SM",2	Unsolicited notification of the SMS arriving.
AT+CMGL="ALL" +CMGL: 1, "REC READ", "+861358888xxxx", , "08/01/30,20:40:31+00" This is a test +CMGL: 2, "REC UNREAD", "", "+861358888xx xx", , "08/01/30,20:45:12+00" Test again OK	Listing all SMS messages.
AT+CMGD=1 OK	Delete an SMS message.
AT+CMGL="ALL" +CMGL: 2,"REC READ","+861358888xxxx", "08/01/30,20:45:12+00" Test again OK	List all SMS messages to show message has been deleted.

7 Conflict AT Commands

Following AT commands cannot be used with SMS AT commands together:

- Call AT Commands.

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