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# **SIM800 Series\_FM\_Application Note\_V1.00**



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## Contents

<b>1. FM Introduction.....</b>	<b>5</b>
1.1. Features .....	5
<b>2. AT Commands.....</b>	<b>6</b>
2.1. AT+FMOPEN Open FM.....	6
2.2. AT+FMCLOSE Close FM .....	7
2.3. AT+FMFREQ Set FM Frequency .....	7
2.4. AT+FMVOLUME Set FM Volume.....	7
2.5. AT+FMSCAN Auto Search Channel .....	8
2.6. AT+FMSIGNAL Query Signal Level .....	8
<b>3. Examples.....</b>	<b>9</b>
<b>Appendix.....</b>	<b>10</b>
A Related Documents.....	10
B Terms and Abbreviations .....	10

## Version History

Date	Version	What is new	Author
2013-10-18	1.00	New version	Yong.lu

## Scope

This document presents the AT commands of FM operation and application examples. This document can apply to SIM800 series modules, including SIM800L and SIM800H.

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## 1. FM Introduction

This chapter introduces the FM application features of SIM800 series modules.

### 1.1. Features

FM is frequency modulation radio. The frequency range is limited from 87.5 to 108.0 MHz (87.5MHz-108.0MHz). It supports auto search channel.

NOTE: If there is an incoming call after FM function is on, FM will be shut off automatically, when incoming call is finished, FM will not re-open automatically.

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## 2. AT Commands

SIM800 series FM AT command overview.

Command	Description
AT+FMOPEN	Open FM
AT+FMCLOSE	Close FM
AT+FMFREQ	Set FM Frequency
AT+FMVOLUME	Set FM Volume
AT+FMSCAN	Auto Search Channel
AT+FMSIGNAL	Query Signal Level

### 2.1. AT+FMOPEN Open FM

AT+FMOPEN Open FM	
Test Command <b>AT+FMOPEN=?</b>	Response <b>+FMOPEN: (0-1)</b>  <b>OK</b>
	Parameter See Write Command
Read Command <b>AT+FMOPEN?</b>	Response <b>+FMOPEN: &lt;status&gt;,&lt;device&gt;</b>  <b>OK</b>
	Parameter See Write Command If the status is 0,the default device is 0,but the device is meaningless.
Write Command <b>AT+FMOPEN=&lt;device&gt;</b>	Response <b>OK</b> <b>ERROR</b>
	Parameter <b>&lt;status&gt;</b> <b>0</b> FM is closed <b>1</b> FM is opened <b>&lt;device&gt;</b> <b>0</b> Main audio channel <b>1</b> Aux audio channel
Reference	Note

## 2.2. AT+FMCLOSE Close FM

AT+FMCLOSE Close FM	
Execution Command	Response
<b>AT+FMCLOSE</b>	<b>OK</b> <b>ERROR</b>
Reference	Note

## 2.3. AT+FMFREQ Set FM Frequency

AT+FMFREQ Set FM Frequency	
Test Command <b>AT+FMFREQ=?</b>	Response <b>+FMFREQ: (875-1080)</b>  <b>OK</b>
	Parameter See Write Command
Read Command <b>AT+FMFREQ?</b>	Response <b>+FMFREQ: &lt;freq&gt;</b>  <b>OK</b>
	Parameter See Write Command
Write Command <b>AT+FMFREQ=&lt;freq&gt;</b>	Response <b>OK</b> <b>ERROR</b>
	Parameter <b>&lt;freq&gt; 875-1080</b> The FM frequency. The range is limited from 875 to 1080 ( 87.5 MHz - 108.0 MHz)
Reference	Note FM must have been opened.

## 2.4. AT+FMVOLUME Set FM Volume

AT+FMVOLUME Set FM Volume	
Test Command <b>AT+FMVOLUME=?</b>	Response <b>+FMVOLUME: (0-6)</b>  <b>OK</b>
	Parameter See Write Command
Read Command <b>AT+FMVOLUME</b>	Response <b>+FMVOLUME: &lt;value&gt;</b>

<b>E?</b>	<b>OK</b>
	Parameter See Write Command
Write Command <b>AT+FMVOLUM</b> <b>E=&lt;value&gt;</b>	Response <b>OK</b> <b>ERROR</b>
	Parameter <b>&lt;value&gt; 0-6</b> volume level
Reference	Note

### 2.5. AT+FMSCAN Auto Search Channel

<b>AT+FMSCAN Auto Search Channel</b>	
Execution Command <b>AT+FMSCAN</b>	Response [ <b>&lt;channel&gt;</b> [ <b>&lt;CR&gt;&lt;LF&gt; &lt;channel &gt; ... ]</b> ]
	<b>OK</b>
	Parameter <b>&lt;channel&gt;</b> auto search channel
Reference	Note FM must have been opened.

### 2.6. AT+FMSIGNAL Query Signal Level

<b>AT+FMSIGNAL Query Signal Level</b>	
Write Command <b>AT+FMSIGNAL</b> <b>=&lt;freq&gt;</b>	Response <b>+FMSIGNAL: freq[&lt;freq&gt;]:&lt;level&gt;</b>
	<b>OK</b>
	Parameter <b>&lt;freq&gt; 875-1080</b> The FM frequency. The range is limited from 875 to 1080 ( 87.5 MHz - 108.0 MHz) <b>&lt;level&gt; 0-112</b> Signal Level
Reference	Note FM must have been opened.



### 3. Examples

In the "Grammar" columns of following tables, input of AT commands are in black , module return values are in blue.

Grammar	Description
AT+FMOPEN=1 OK	Open FM. FM data would be outputted through aux audio channel
AT+FMVOLUME=6 OK	Set FM volume
AT+FMSCAN 948  950  952  954  956  962  968  OK	Auto search FM channel
AT+FMFREQ=948 OK	Set FM channel at 94.8MHZ
AT+FMSIGNAL=948 +FMSIGNAL: freq[948]:32  OK	Query 94.8MHZ signal level
AT+FMCLOSE OK	Close FM

## Appendix

### A Related Documents

SN	Document name	Remark
[1]	SIM800 Series_AT Command Manual	

### B Terms and Abbreviations

Abbreviation	Description
FM	Frequency Modulation Radio

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