GSM TTS

Application Note

GSM/GPRS Module Series

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About the Document

History

Revision	Date	Author	Description
1.0	2010-06-07	Willis YANG	Initial
1.1	2011-07-20	Laguna XU	Changed the operating method and added ASCII mode.
1.2	2015-02-06	Ablaze LU	1. Added \<path> parameter for AT+QTTS; 2. Added AT Commands: AT+QMEDVL/AT+QWTTS/AT+QULDLSPH

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1 Introduction

This document describes how to use the TTS function of Quectel standard module. User can input text and output speech by using this function via the auxiliary channel of the module.

NOTE

TTS function is only supported by the special software versions.

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2 TTS Commands Description

2.1. AT Command Syntax

Test Command	AT+<*x*>=?	This command returns the list of parameters and value ranges set by the corresponding Write Command or internal processes.
Read Command	AT+<*x*>?	This command returns the currently set value of the parameter or parameters.
Write Command	AT+<*x*>=<…>	This command sets the user-definable parameter values.
Execution Command	AT+<*x*>	This command reads non-variable parameters affected by internal processes in the GSM engine.

2.2. AT+QTTS   TTS Command

AT+QTTS TTS Command	
Test Command **AT+QTTS=?**	Response **+QTTS: (**list of supported **<mode>**s**),"TEXT"[,**list of supported **<path>** s]** **OK**
Read Command **AT+QTTS?**	Response **+QTTS: <mode>** **OK**
Write Command **AT+QTTS=<mode> [,<text>[,<path>]]**	Response If **<mode>** is 0, return: **OK** If **<mode>** is 1 or 2, return: **OK** (Start to play TTS) **+QTTS: 0** If error is related to ME functionality: **+CME ERROR: <err>**

	Or
	+QTTS: <err>
Reference	

Parameter

<mode>	Start or stop TTS, and define the format of text
	0 Stop TTS, **<text>** and **<path>** can be omitted
	1 Start TTS, **<text>** is UCS2 format
	2 Start TTS, **<text>** can be input directly. Normal characters in ASCII format and Chinese characters in GBK
<text>	Text to be played. Format depends on mode. The max length is 960 bytes
<path>	Audio channels
	1 Channel 0, normal audio channel
	<u>2</u> Channel 1, headset audio channel
	4 Channel 2, loudspeaker audio channel

NOTE

Some modules only support Chinese TTS library.

Example

AT+QTTS=?	//Query parameter
+QTTS: (0-2),"TEXT"[,(1-7)]	
OK	
AT+ QTTS?	//Query current state
+QTTS: 0	
OK	
AT+QTTS=1,"6B228FCE4F7F752879FB8FDC6A215757"	//Start to play text encoded in UNICODE
OK	
+QTTS: 0	
AT+QTTS=1,"6B228FCE4F7F752879FB8FDC6A215757",1	//Start to play text encoded in UNICODE via the normal audio channel
OK	
+QTTS:0	

AT+QTTS=2,"Welcome to use the module of QUECTEL"   //Start to play text encoded in ASCII

OK

+QTTS: 0
AT+QTTS=2,"欢迎使用移远模块!"   //Start to play text encoded in GBK

OK

+QTTS: 0
AT+QTTS=2,"Welcome to use the module of QUECTEL",1 //Start to play text encoded in ASCII via
                                                          the normal audio channel

OK

+QTTS: 0
AT+QTTS=0   //Stop TTS
OK

2.3. AT+QMEDVL   Set/Get Media Volume Gain

Get or set the volume level of media playback in idle mode. This command controls the volume level of
AT+QTTS.

AT+QMEDVL Set/Get Media Volume Gain	
Test Command **AT+QMEDVL=?**	Response **+QMEDVL: (**list of supported **<volume>**s**)** **OK**
Read Command **AT+QMEDVL?**	Response **+QMEDVL: <volume>** **OK**
Write Command **AT+QMEDVL=<volume>**	Response **OK** If format is error, response: **+CME ERROR: <err>**
Reference	

Parameter

<volume>	Volume level of media playback Range: 0-100

Example

```
AT+QMEDVL=?                    //Query parameter
+QMEDVL: (0-100)

OK
AT+QMEDVL?                     //Query current volume
+QMEDVL: 50

OK
AT+QMEDVL=90                   //Set media volume
OK
```

2.4. AT+QWTTS   Play TTS During Voice Call

AT+QWTTS Play TTS During Voice Call	
Test Command **AT+QWTTS=?**	Response **+QWTTS: (**list of supported **<ul_volume>**s**),(**list of supported **<dl_volume>**s**),(** list of supported **<mode>**s**),"TEXT"** **OK**
Read Command **AT+QWTTS?**	Response **+QWTTS: <status>** **OK**
Write Command **AT+QWTTS=<ul_volume>,<dl_volume>,<mode>[,<text>]**	Response If **<mode>** is 0, return: **OK** If **<mode>** is 1 or 2, return: **OK** (Start to play) **+QWTTS: 0** If error is related to ME functionality: **+CME ERROR: <err>**

Reference	

Parameter

<ul_volume>	Uplink volume. Range: 0 ~ 7
<dl_volume>	Downlink volume. Range: 0 ~ 7
<mode>	Start or stop TTS, and define the format of text
	0 Stop TTS, parameter **<text>** is left out
	1 Start TTS, **<text>** is UCS2 format
	2 Start TTS, **<text>** can be input directly. Normal characters in ASCII format and Chinese characters in GBK
<text>	Text to be played. Format depends on mode. The max length is 960 bytes.
<status>	TTS status
	0 Idle
	1 Play

NOTES

1. This command must be executed during voice call.
2. Hex string should be placed in big-endian sequence if **<mode>** is 2.
3. Some modules only support Chinese TTS library.

Example

```
AT+QWTTS=?                                              //Query parameter
+QWTTS: <ul_volume>(0-7),<dl_volume>(0-7),(0-2),"TEXT"

OK
AT+QWTTS?                                               //Query current state
+QWTTS: 0

OK
AT+QWTTS=6,6,1,"6B228FCE4F7F752879FB8FDC6A215757"//Start to play text encoded in UNICODE

OK

+QWTTS: 0
AT+QWTTS=6,6,2,"Welcome to use the module of QUECTEL" //Start to play text encoded in ASCII

OK

+QTTS:0
AT+QWTTS=6,6,2,"欢迎使用移远模块!"                        //Start to play text encoded in GBK
```

OK

+QWTTS: 0
AT+QWTTS=6,6,0   //Stop TTS
OK

2.5. AT+QULDLSPH   Control Speech Channel

AT+QULDLSPH Control Speech Channel	
Test Command **AT+QULDLSPH=?**	Response **+QULDLSPH: (**list of supported **<ULSPH>**s),(list of supported **<DLSPH>**s) **OK**
Read Command **AT+QULDLSPH?**	Response **+QULDLSPH: <ULSPH>,<DLSPH>** **OK**
Write Command **AT+QULDLSPH=<ULSPH>,<DLSPH>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
Reference	

Parameter

<ULSPH>	Uplink channel
	0 Close the uplink channel when using **AT+QWTTS** to play TTS
	1 Open the uplink channel when using **AT+QWTTS** to play TTS
<DLSPH>	Downlink channel
	0 Close the downlink channel when using **AT+QWTTS** to play TTS
	1 Open the downlink channel when using **AT+QWTTS** to play TTS

Example

AT+QULDLSPH=?   //Query parameter
+QULDLSPH: (0,1),(0,1)

OK
AT+ QULDLSPH?   //Query current state

```
+QULDLSPH: 1,1

OK
AT+QULDLSPH=0,1                    //Close uplink channel
OK
AT+QULDLSPH=1,0                    //Close downlink channel
OK
```

2.6. AT+QTTSETUP   Set/Get TTS Parameter

AT+QTTSETUP Set/Get TTS Parameter	
Test Command **AT+QTTSETUP=?**	Response **+QTTSETUP: (**list of supported **<mode>**s),**(**list of supported **<ID>**s)[,(**list of supported **<value**>s)]** **OK**
Read Command **AT+QTTSETUP?**	Response **OK**
Write Command **AT+QTTSETUP=<mode>,<ID>[,<value>]**	Response If **<mode>** is 1, return: **OK** If **<mode>** is 2, return: **+QTTSETUP: <mode>,<ID>,<value>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
Reference	

Parameter

<mode>	Mode 1 Set TTS parameter 2 Get TTS parameter
<ID>	ID options 1 Set TTS speed
<value>	TTS speech. The range is -32768 ~ 32767, default value: 0. when the **<mode>** is 2, this parameter can be omitted.

NOTE

This command only supports to get TTS parameter when playing TTS, otherwise it will return ERROR.

Example

AT+QTTSETUP=?	//Query parameter
+QTTSETUP: (1,2),(1)[,(-32768-32767)]	
OK	
AT+QTTSETUP?	//Read command
OK	
AT+QTTSETUP=1,1,-32768	//Set TTS speed
OK	
AT+QTTS=1,"6B228FCE4F7F752879FB8FDC6A215757"	
OK	
AT+QTTSETUP=2,1	//Get TTS speed
+QTTSETUP: 2,1,-32768	
OK	

3 Appendix A Reference

Table 1: Related Documents

SN	Document Name	Remark
[1]	Quectel_Mxx_AT_Commands_Manual	AT commands manual

Table 2: Terms and Abbreviations

Abbreviation	Description
TTS	Text To Speech