



Perfect Wireless Experience
完美无线体验

FIBOCOM_NL668_VoLTE_Guide

Version: V1.0.0

Date: 2020-02-15



Applicability type

No.	Product model	Description
1	NL668 Series	The VoLTE Guide

FIBOCOM
Confidential

Copyright

Copyright ©2020 Fibocom Wireless Inc. All rights reserved.

Without the prior written permission of the copyright holder, any company or individual is prohibited to excerpt, copy any part of or the entire document, or transmit the document in any form.

Notice

The document is subject to update from time to time owing to the product version upgrade or other reasons. Unless otherwise specified, the document only serves as the user guide. All the statements, information and suggestions contained in the document do not constitute any explicit or implicit guarantee.

Trademark



The trademark is registered and owned by Fibocom Wireless Inc.

Versions

Version	Author	Assessor	Approver	Update Date	Description
V1.0.0	Dong Yue	Wang Guanghong	Xie Xiangcun	2020-02-15	Initial version

Contents

1	VoLTE command.....	5
1.1	Introduction.....	5
1.2	VoLTE Configuration.....	5
1.3	+CAVIMS command.....	6
1.3.1	<i>Syntax</i>	6
1.3.2	<i>Attributes</i>	6
1.3.3	<i>Defined Values</i>	6
1.4	\$QCPDPIMSCFGE command.....	6
1.4.1	<i>Syntax</i>	6
1.4.2	<i>Attributes</i>	7
1.4.3	<i>Defined Values</i>	7

1 VoLTE command

1.1 Introduction

VoLTE (Voice over long-term Evolution, or Voice over LTE) is a high-speed wireless standard for mobile phones and data terminals. It is based on the IP multimedia subsystem (IMS) network, used for control plane on LTE (Control plane) Media and voice service level (Media plane) special configuration file (defined by the GSM association in PRD IR. 92), which makes voice services (Control and Media level) as the data flow in LTE hosted network data transmission, and no longer need to maintain and rely on the traditional circuit-switched voice networks. The voice and data capacity of VoLTE has more than three times over 3G (UMTS) and more than six times over 2G (GSM). Because the VoLTE packet header is smaller than unoptimized VoIP/LTE and it also uses bandwidth more efficiently.

1.2 VoLTE Configuration

The NL668 module supports IMS configuration by default, and the IMS function is checked by below AT commands.

AT+CGDCONT?

Case1:

If there is a cid whose apn name contains "ims" in module responses, that cid would be the ims pdp profile.

Sample:

AT+CGDCONT?

```
+CGDCONT: 1,"IPV4V6","", "0.0.0.0,0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0",0,0,0
```

```
+CGDCONT: 2,"IPV4V6","ims", "0.0.0.0,0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0",0,0,0
```

OK

Case2:

If there is no such ims pdp profile, you need create it by below AT commands:

Sample:

```
AT+CGDCONT=2,"IPV4V6","IMS"
```

OK

```
AT$QCPDPIMSCFGE = 2 , 0 , 1 , 1
```

OK

And then restart the UE. If the module still cannot register VOLTE normally, contact FAE for help.

1.3 +CAVIMS command

This command is used to enable or disable ims function.

1.3.1 Syntax

Command	Possible response(s)
+CAVIMS=[<state>]	OK Or ERROR
+CAVIMS?	+CAVIMS: <state>
+CAVIMS =?	+CAVIMS: (list of supported <state>s)

1.3.2 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of duration
No	Yes	Yes	No	<1s

1.3.3 Defined Values

<state>: integer type value indicating

- 0 Disable ims function
- 1 Enable ims function.

1.4 \$QCPDPIMSCFGE command

This command is used to edit PDP profile registry. Before making IMS call, you must make configuration by it.

1.4.1 Syntax

Command	Possible response(s)
\$QCPDPIMSCFGE=<profile_num>,0,<pcscf_address_flag>,1	OK Or ERROR
\$QCPDPIMSCFGE?	\$QCPDPIMSCFGE: <profile_num>,0,<pcscf_address_flag>,1 OK

Command	Possible response(s)
\$QCPDPIMSCFGE=?	\$QCPDPIMSCFGE: (list of supported) OK

1.4.2 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of duration
Yes	Yes	Yes	No	<1s

1.4.3 Defined Values

profile_num: The cid for IMS setting, which can be queried by sending AT+CGDCONT? command

pcscf_address_flag: PCSCF query flag