SIM7020 Series MQTT Application Note

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About Document

Document Information

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Revision History

Revision	Date	Owner	Status / Comments
1.0	April 10, 2018	Xiaohui Xu	First Release.
1.1	April 19, 2018	Albert Meng	Revised

Related Documents

[1] SIM7020 Series AT Command Manual V1.0.pdf

This document applies to the following products:

Name	Type	Size (mm)	Comments
SIM7020C	NB1	17.6*15.7	Band 1/3/5/8
SIM7020E	NB1	17.6*15.7	Band 1/3/5/8/20/28

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1 Purpose of this document

Based on module AT command manual, this document will introduce MQTT application process.

Developers could understand and develop application quickly and efficiently based on this document.

2 Bearer Configuration

Usually module will register PS service automatically.

2.1 PDN Auto-activation

AT Command	Response	Description
AT+CPIN?	+CPIN:READY OK	Check SIM card status
AT+CSQ	+CSQ: 20,0 OK	Check RF signal
AT+CGREG?	+CGREG: 0,1 OK	Check PS service
AT+CGACT?	+CGACT: 1,1 OK	Activated automatically
AT+COPS?	+COPS: 0,0,"CHN-UNICOM",9 OK	Check operator info CHN-UNICOM is operator's name 9 is NB-IOT network
AT+CGCONTRDP	+CGCONTRDP: 1,5,"shnbiot","10.250.0.213.255.255.255.0" OK	Get APN and IP address from network

2.2 APN Manual configuration

If not attached, could configure correct APN setting.

AT Command	Response	Description
AT+CFUN=0	+CPIN: NOT READY OK	Disable RF
AT*MCGDEFCONT="IP","3GNET"	OK	Configure new APN
AT+CFUN=1	OK +CPIN: READY	Enable RF
AT+CGREG?	+CGREG: 0,1 OK	Inquiry PS service
AT+CGCONTRDP	+CGCONTRDP: 1,5,"3GNET","10.250.0.253.255.255.255.0" OK	Attached PS domain and got IP address automatically

3 MQTT Service

AT Command	Response	Description
AT+CMQNEW="198.41.30.241","1883",12000,100	+CMQNEW: 0 OK	Create MQTT connection If succeed, MQTT id will return
AT+CMQCON=0,3,"myclient",600,0,0	OK	Send MQTT request
AT+CMQSUB=0,"mytopic",1	OK	send subscribe topic
AT+CMQPUB=0,"mytopic",1,0,0,8,"31323334"	OK	Public topic and message
	+CMQPUB: 0, "mytopic", 1, 0, 0, 8, "31323334"	Got subscribed topic and message down from server
AT+CMQUNSUB=0,"mytopic"	OK	Unsubscribe topic
AT+CMQDISCON=0	OK	Disconnect MQTT connection with id

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