SIM7020 Series_CTBURST _Application Note

LPWA Module

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About Document

Version History

Version	Date	Owner	What is new
V1.00	2019.06.10	Yong.lu	First Release
V1.01	2020.03.31	Xiaohui.Xu	All

Scope

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
SIM7030	NB1	16*18	Band 1/3/5/8
SIM7060	NB1+GNSS	24*24	Band 5/8
SIM7020G	NB2	17.6*15.7	Band 1/2/3/4/5/8/12/13/17/18/19/20/25/26/28/66/70/71/85
SIM7060G	NB2+GNSS	24*24	Band 1/2/3/4/5/8/12/13/17/18/19/20/25/26/28/66/70/71/85

Contents

1 Introduction

1.1 Purpose of the document

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

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

The function only used to do RF TX burst test, not used to make production test.

1.2 Related documents

[1] SIM7020 Series_AT Command Manual

1.3 Conventions and abbreviations

In this document, the GSM engines are referred to as following term:
ME (Mobile Equipment);
MS (Mobile Station);
TA (Terminal Adapter);
DCE (Data Communication Equipment) or facsimile DCE (FAX modem, FAX board);

In application, controlling device controls the GSM engine by sending AT Command via its serial interface.
The controlling device at the other end of the serial line is referred to as following term:
TE (Terminal Equipment);
DTE (Data Terminal Equipment) or plainly "the application" which is running on an embedded system;

2 CTBURST Introduction

CTBURST command is used to start or stop continuous burst transmitting for production verification test at manufacturer.

3 AT Commands for CTBURST

Command	Description
AT+CTBURST	The RF TX Burst Test

3.1 AT+CTBURST The RF TX Burst Test

AT+CTBURST The RF TX Burst Test	
Write Command **AT+CTBURST=<mode>[,<band>,<channel>,<power>]**	Response **OK** or **ERROR**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	

Defined Values

<mode>	0 Stop RF Tx Test 1 Start RF Tx Test
<band>	1 LTE 1 Band 2 LTE 2 Band 3 LTE 3 Band 4 LTE 4 Band 5 LTE 5 Band 8 LTE 8 Band 12 LTE 12 Band 13 LTE 13 Band 18 LTE 18 Band 19 LTE 19 Band 20 LTE 20 Band 26 LTE 26 Band 28 LTE 28 Band.
<channel>	Frequency channel 18000~18599 LTE 1 Band 18600~19199 LTE 2 Band 19200~19949 LTE 3 Band

	19950~20399 LTE 4 Band 20400~20649 LTE 5 Band 21450~21799 LTE 8 Band 23010~23179 LTE 12 Band 23180~23279 LTE 13 Band 23850~23999 LTE 18 Band 24000~24149 LTE 19 Band 24150~24449 LTE 20 Band 26690~27039 LTE 26 Band 27210~27659 LTE 28 B
<power>	Power control level. The power in dBm, the value is different for different band. 0-23

NOTE

- Customer must set AT+CFUN=0 firstly and AT*MCALDEV=1 secondly before this command.
- If <mode>=0, other parameters are not required, it will stop the current starting RF band test, otherwise it return error.
- If <mode>=1, all the other parameters are required.
- <band> refer to hardware doc, not support all band.
- After set <mode>=1, if change other parameters to test, the customer should set AT+CTBURST=0, then test again.
- After set <mode>=0, and not use this command, you should set AT*MCALDEV=0 firstly and set AT+CFUN=1 secondly.

4 CTBURST Examples

```
//Example of CTBURST.

AT+CFUN=0                                   //Set minimum functionality
OK
AT*MCALDEV=1                                //Enter RF calibration state.
OK
AT+CTBURST=1,28,27210,20                    //Start CTBURST with LTE band.
OK
AT+CTBURST=0                                //Stop CTBURST.
OK
AT+CTBURST=1,8,21450,10                     //Start CTBURST with another LTE band.
OK
AT+CTBURST=0                                //Stop CTBURST.
OK
AT+CTBURST=1,8,21450,10                     //Start CTBURST with another LTE band
OK
AT+CTBURST=0                                //Stop CTBURST.
OK
AT*MCALDEV=0                                //Exit RF calibration state
OK
AT+CFUN=1                                   //Set full functionality
OK
```