



SIMCOM WCDMA Wireless Module

SIM52xx_Heart_Beat_Application Note_V1.01



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Version history

Date	Version	Description of change	Author
2010-04-06	01.01	Origin	

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1 Introduction

Although SIM52XX has integrated watchdog, SIM52XX can reset when software crash. But if SIM52XX works well, and the host works well, the host can not communicate with SIM52XX, the host want to reset the SIM52XX to setup communicate again.

To solve such problem, SIM52XX provides a heart beat function by lua. (SIM52XX represents the series which is stated below.)

2 Scope of the document

This document is intended for the following versions of the SIMCom modules

- SIM5210
- SIM5211
- SIM5213/SIM5214
- SIM5215/SIM5216
- SIM5218
- SIM5220/SIM5222

3 Heat Beat by lua

3.1 Application diagram

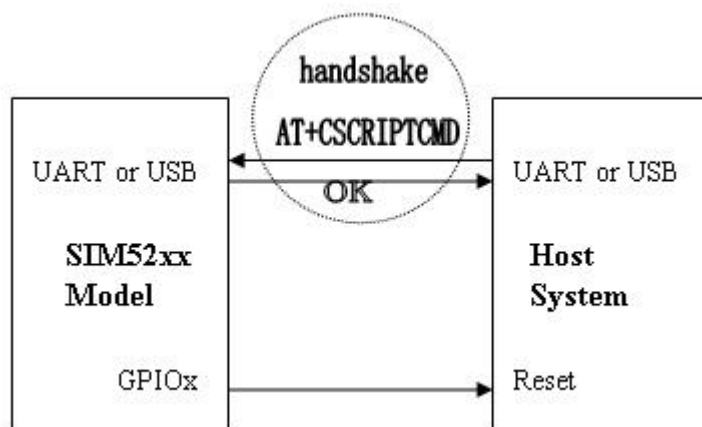


Figure 1: Heat Beat Application diagram

The heat beat by lua is used to keep the communication between SIM52XX and host. The host sends a command in certain frequency, when SIM52XX receive the command, it can reset a timer. If host can not communication with SIM52XX, SIM52XX can not reset a timer by the command receiving from host. So the timer can interrupt SIM52XX to finish some functions as one want. Such as resetting the host, reset SIM52XX itself.

Figure 1 shows how SIM52XX reset the host by heat beat function of lua when encountering communication disconnecting.

Also it can reset itself by at command.

3.2 Application demo

The following script gives an example of using heart heat. In this example, the external MCU should send AT+CSCRIPTCMD command to module every 1 minute, which generates event 31 to the running LUA script. Once the script receives event 31, it will reset the heart beat timer. If no event 31 is received within 1 minute, the script will reset external MCU using reset_external_mcu() function.

```
1 function reset_external_mcu()
2     gpio.setdrt(1);
3     gpio.setv(0);
4 end;
5 printdir(1)
6 --const value
7 TIMER_EVENT = 28
8 OUT_CMD_EVENT = 31
9
10 HEART_BEAT_TIMEOUT = 1 * 60 * 1000;
11 vmstarttimer(0, HEART_BEAT_TIMEOUT);
12 while ( true ) do
13     evt, evt_param1, evt_param2, evt_param3 = waitevt(15000);
14     if (evt >= 0) then
15         count = count + 1;
16         print("(count=", count, ")", os.clock(), " event = ", evt, "\r\n");
17         if ( evt == OUT_CMD_EVENT ) then
18             vmstoptimer(0);
19             sendtoport(evt_param1, "This is the confirm\r\n");
20             vmstarttimer(0, HEART_BEAT_TIMEOUT);
21         elseif ( (evt == TIMER_EVENT) and (evt_param1 == 0) ) then
22             reset_external_mcu();
23         end;
24     end;
25 end;
```


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