



HUAWEI LGA Module

Dual SIM Single Standby Application Guide

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About This Document

Revision History

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01	2015-03-24		Creation

Scope

MU709s-2

MU709s-6



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1 Overview

1.1 Purpose

This document describes how to design a dual SIM single standby solution with HUAWEI LGA module. The dual SIM single standby function is used to select one wanted SIM card between two SIM cards.

1.2 Application Scope

Customers can refer to this document when using the dual SIM single standby function of HUAWEI LGA module.

2 Dual SIM Single Standby Solution

2.1 About This Chapter

HUAWEI LGA module does not support dual SIM design function, but has one GPIO to control the module's hardware switching between two SIM cards to support dual SIM single standby.

This chapter describes two solutions about how to develop the dual SIM single standby function on HUAWEI LGA module.

- Module Control
- Customer Control

2.2 Module Control

2.2.1 System Block

HUAWEI LGA module has a particular Pin 55 named SIM_SELECT to support dual SIM single standby function.



NOTE

Now only HUAWEI MU709 series modules support this pin. Customers can refer the corresponding hardware guide of HUAWEI LGA module to know whether the module supports this pin.

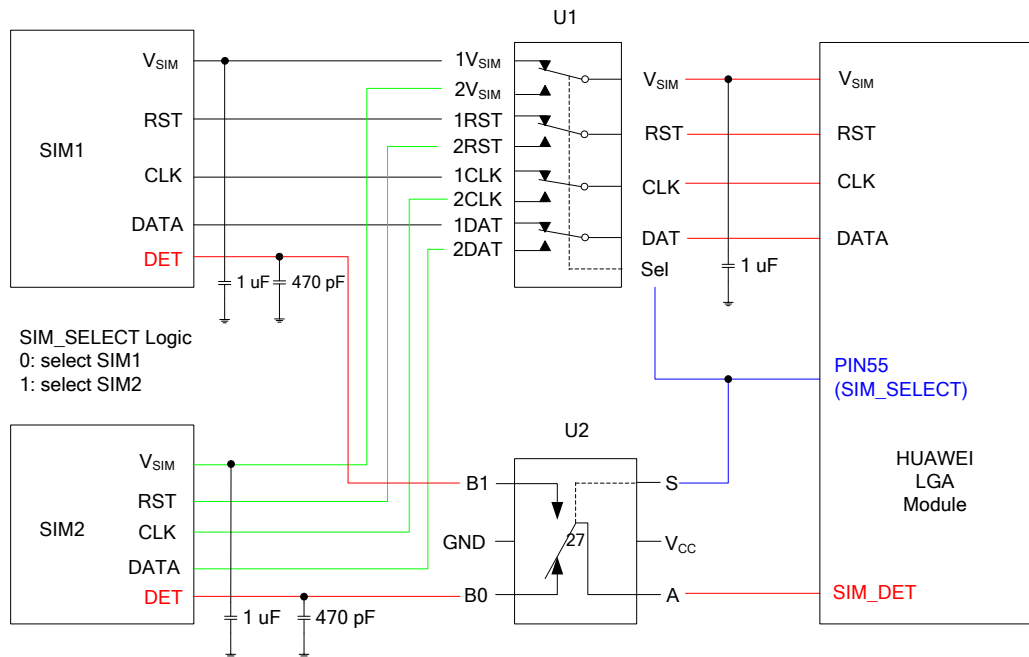
No	SIM_SELECT	I/O	Function
1	Low (default)	O	The module SIM bus connects to SIM1.
2	High	O	The module SIM bus connects to SIM2.

This solution needs an external circuit to support the SIM bus switch, except supporting SIM_SELECT pin by the module's software. The following figure is the recommended circuit.



NOTE

The SIM_DATA pin is pulled up inside by the module.



Reference	Part Number	Vendor
4PDT analog switch (U1)	FSA2567	FSC
SPDT analog switch (U2)	FSA3157	FSC

If the module supports SIM hot swap function, another SPDT (Single Pole Double Throw) analog switch should be added. If there is no SIM hot swap application, SPDT analog switch can be removed and the SIM_DET pin can be floating.

2.2.2 Software Section

AT^SIMSWITCH command can switch Pin 55 (SIM_SELECT) from low to high and query the status of the SIM card used. For more details about this command, please refer to the corresponding application guide of HUAWEI LGA module.

For example:

Because the **SIM_SELECT** pin is low by default when the module is powered on, the SIM1 is selected by default.

Command	Description
AT^SIMSWITCH?	
^SIMSWITCH: 1	It means the SIM1 is used.
OK	
AT^SIMSWITCH=0	Insert a SIM card which is un-activate in the SIM2 socket.

OK

^SIMST: 1,0 The status of the SIM card used is reported.

AT^SIMSWITCH?

^SIMSWITCH: 0 It means the SIM2 is used.

OK

2.3 Customer Control

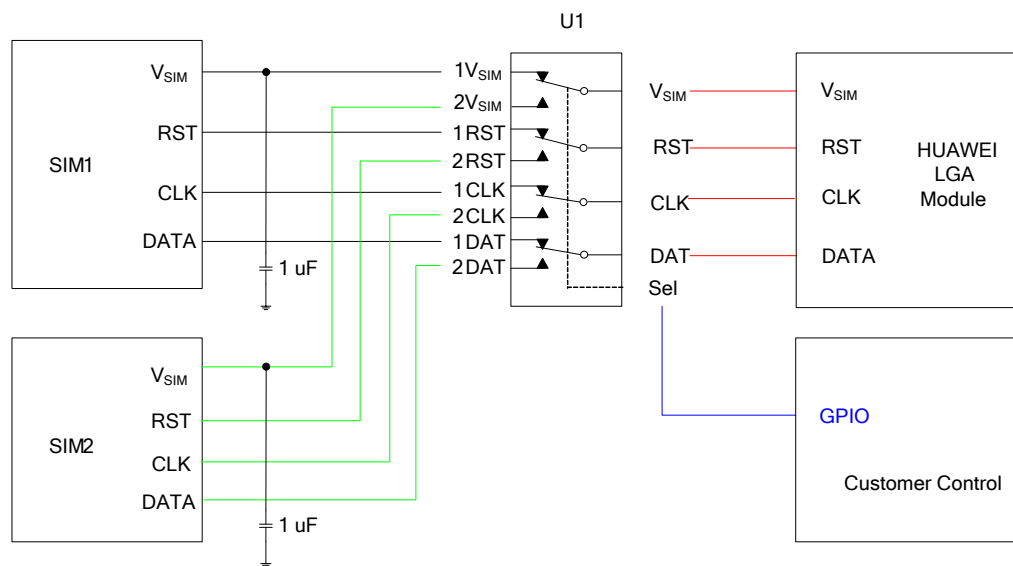
2.3.1 System Block

If HUAWEI LGA module's software does not support dual SIM single standby function, which means the module does not support **AT^SIMSWITCH** command and **SIM_SELECT** pin, there is also a solution that can resolve it. The recommended circuit is as follows.



NOTE

The SIM_DATA pin is pulled up inside by the module.



Reference	Party Number	Vendor
4PDT analog switch (U1)	FSA2567	FSC

The dual SIM analog switch is used to switch the SIM signal from the module to the SIM socket 1 or the SIM socket 2. The GPIO from customer control outputs different logics to select different SIM sockets.



2.3.2 Software Section

Because the module does not support this function by itself, you need to restart the module after switching the SIM card.

The procedures are as follows:

- Step 1 Power off the module.
- Step 2 Select the other SIM card.
- Step 3 Power on the module.



3 Acronyms and Abbreviations

Acronym or Abbreviation	Expansion
LGA	Land Grid Array
GPIO	General-purpose I/O
SIM	Standard Subscriber Identity Module
SPDT	Single Pole Double Throw