

SIMCOM EVB Kit User Guide

SIMCom Wireless Solutions Limited

Building B, SIM Technology Building, No.633, Jinzhong Road Changning District, Shanghai P.R. China Tel: 86-21-31575100 support@simcom.com www.simcom.com



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SIMCom Wireless Solutions Limited

Building B, SIM Technology Building, No.633 Jinzhong Road, Changning District, Shanghai P.R.China Tel: +86 21 31575100 Email: simcom@simcom.com

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Version History

Date	Version	Description of change	Author
2016.07.12	1.00	Origin	shijie.yuan
0040 00 47	1.01	1. Update earphone	shijie.yuan
2010.08.17	1.01	2. Add LED indicator for Status	shijie.yuan
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SCOPE

THIS DOCUMENT DESCRIBES HOW TO USE SIMCOM-EVB TO DO TEST; USER CAN GET USEFUL INFO ABOUT THE SIMCOM-EVB QUICKLY THROUGH THIS DOCUMENT.

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.





1. SIMCom-EVB Overview



Figure1: SIMCom-EVB TOP view



Figure2: SIMCOM-EVB BOTTOM view



- A: USB jack
- B: Powerkey
- C: Reset
- D: Power switch
- E: RF switch
- F: TE connector
- G: TE connector
- H: SIMcard holder 1
- I: LED indicator for Netlight
- J: LED indicator for Power
- K: Test Point
- L: Studs and nuts
- M: mark of TE Module direction
- N: LED indicator for Status
- O: Handset jack
- P: Power jack
- Q : SIMcard holder 2
- R : Earphone jack



2. EVB Accessory



Figure3: EVB Accessory

A: SIMCOM-EVB B: 5V DC adapter C: USB Cable D:GSM/WCDMA /LTE antenna





3. Accessory Interface

3.1 Power Interface

Pin	Signal	I/O	Description
1	Adapter input	I	5V/2.0A DC source input

3.2 Audio Interface

Figure4: Audio Interface

Headset interface:

Pin	Signal	I/O	Description
1	MICN	Ι	Negative microphone input



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2	SPKN	0	Negative receiver output
3	SPKP	I	Positive receiver output
4	MICP	0	Positive microphone input

3.3 SIM Card Interface

SIMCard holder 1(J202) is the main holder, SIM2(J203) is for special module which supports dual sim.

3.4 USB Interface



Figure5: Virtualserial port

Enhanced COM port: AT communication

Standard COM port: Debug

CP2105 driver is available here:

http://www.silabs.com/products/interface/usb-bridges/Pages/usb-bridges.aspx



3.5 Power Switch

After 5V Adapter inserted ,switch S201 on, then power LED (D201) willbe solid on.

3.6 POWER_ON Button

After give power to EVB, press the POWER_ON button for more than 1.5 seconds, the module will be turned on, the network LED light (D401) will blink.

3.7 RF Switch

RF switch (S401) could control module RF on or off. That's hardware control of flight mode. When RF on, flight mode is off, when RF switch off, flight mode is on.

3.8 LED Indicator

LED light work's behaviour as below.

Name	Description	Status
D204	Dower ON/OFF indicator	Bright: EVB Power ON;
D201	Power ON/OFF Indicator	Extinct: EVB Power OFF
D401	NET status indicator	Blinking at a certain frequency according various net status
D400	Madula atatua indiaatar	Bright: Module runs normally
D402	woodle status indicator	Extinct: System is powered down





4. Test Interface



Figure6: Test interface overview

4.1 Test Point A



Figure7:Test Point A

Test point A Pin description:

Pin	Signal	I/O	Description
1	PWRKEY	I	Power on key
2	RESET		Reset key
3	DBG_RXD		Receive data
4	DBG_TXD	0	Transmit data
5	RI	0	Ring Indicator
6	DCD	0	Data carrier detection
7	DTR		Data Terminal Ready
8	RXD		Receive data
9	CTS	0	Clear to Send
10	RTX		Request to Send
11	TXD	0	Transmit data



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12	CHG_IN	1	Charge in detect
13	ADC1		ADC input
14	TEMP_BAT		Temperature detect
15	VBACKUP	Р	Battery for RTC
16	NETLIGHT	0	LED indicator for NET Light

4.2 Test Point B



Figure8: Test Point B

Test point B Pin description:

Pin	Signal	I/O	Description
1	STATUS	0	Module working on indicate
2	NC17		
3	KBC0		KEYPAD input
4			
5			
6	KBC1		KEYPAD input
7	KBC2		KEYPAD input
8	GPIO11	I/O	GPIO
9	KBC3		KEYPAD input
10	KBC4		KEYPAD input
11	GPIO12	I/O	GPIO
12	KBR0		KEYPAD input
13	KBR1	1	KEYPAD input
14	KBR2	1	KEYPAD input



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15	SIM1_DET	I	SIM detect
16	KBR3	l	KEYPAD input

4.3 Test Point C



Figure9: Test Point C

Test point C Pin description:

Pin	Signal	I/O	Description
1	KBR4	1	KEYPAD input
2	SPI_CS	0	SPI Chip Select
3	SPI_MOSI	0	SPI Data output
4	DSR	0	Data Set Ready
5	SPI_MISO	1	SPI Data input
6	SPI_CLK	0	SPI Clock output
7	PWM1	0	PWM output
8	PWM2	0	PWM output
9	VDD_EXT	Ρ	Power output from Module
10	GND	Ρ	GND
11	3V3	Р	3.3V Power
12	1V8	Ρ	1.8V Power
13	SD_VDD	Ρ	Power for SD Card
14	ADC2		ADC input
15	SD_DET		SD detect

4.4 Test Point D



Figure10: Test Point D

Test point D Pin description:

Pin	Signal	I/O	Description		
1	GPIO43	I/O	GPIO		
2	GPIO41	I/O	GPIO		
3	ISINK	AI	Ground-referenced current sink.		
4	COEX1	0	RF synchronizing between Wi-Fi and LTE		
5	F LIGHT	0	Flight mode		
6	SIM2_DET	1	SIM detect		
7	COEX2	0	RF synchronizing between Wi-Fi and LTE		
8	HOST_WAKE	0	HOST WAKEUP		
9	NC1				
10	COEX3	0	RF synchronizing between Wi-Fi and LTE		
11					
12	PCM_CLK	0	PCM data bit clock		
13	PCM_IN		PCM data input		
14	PCM_OUT	0	PCM data output		
15	PCM_SYNC	0	PCM data frame sync signal		
16	NET_STATUS	0	NET status		



4.5 Test Point E



Figure11: Test Point E

Test Point E Pin description:

Pin	Signal	I/O	Description
1	NC12	I/O	GPIO
2	WAKEUP_IN	Ι/Ο	GPIO
3	NC11	AI	Ground-referenced current sink.
4	RESERVED	0	RF synchronizing between Wi-Fi and LTE
5	NC16	0	Flight mode
6	NC3		SIM detect
7	NC4	0	RF synchronizing between Wi-Fi and LTE
8	NC15	0	HOST WAKEUP
9	NC5		
10	NC10	0	RF synchronizing between Wi-Fi and LTE
11	NC6		
12	NC7	0	PCM data bit clock
13	NC9	I	PCM data input
14	NC8	0	PCM data output





please refer to specified TE schematic for test point if there has difference.





5. Illustration

5.1 SIMCom TE installation and uninstallation



Figure12: TE assembly

Install TE board:

- 1) there have four studs on board near connectors. It's easy to put TE in correct position without making mistake.
- 2) take care of TE SMA connector direction;
- 3) take care of the mark for TE direction on EVB board.

Uninstall and replace TE board:

- 1) it's a little hard to remove TE board from EVB connector, because they are connected closely.
- 2) Take care with power to remove from SMA connector side slowly.



5.2 Power on Module:

- 1) Connect the SIMCOM-TE to the 2x60pins connector on EVB, plug in 5V DC adapter, switch S201 to "ON" state; keep S401 to "ON" position.
- 2) Press the POWER_ON button for more than 1.5 second and then release, SIMCOM module power on.After the module is on, the LED light D402 will be bright ,and the LED light D401 will blink at a certain frequency. Through the state of LED, you can judge registering status of the module. For detailed description, please refer to SIMCOM HD document.

5.3 Registering Network and Making a Call

- 1) Install antenna to TE board, insert SIM card.
- 2) Connect the USB cable to the USB jack; launch the Hyper Terminal in computer.
- 3) Check the serial port number from Device Manager list.



- 4) Use the Hyper Terminal to make a call from module as following:
 - a) Launch hyper terminal



Wew Connection - HyperTerminal File Edit View Call Transfer Help Image: A start of the	Connectio	n Description ew Connection ame and choose an	icon for the connecti	or: Cancel	
Disconnected Auto detect	Auto detect 50	CAP5	NUM	Print echo	

b) configure right com port

	SIMCom Properties ?
	Connect To Settings
5	SIMCom Change <u>I</u> con
	Country/region: United States (1)
	Enter the area code without the long-distance prefix.
	Ar <u>e</u> a code: 89
	Phone number:
	Connect using:
	Agere Systems HDA Modem COM31 COM32
	<u>U</u> se country/ COM15 <u>R</u> edial on bus TCP/IP (Winsock)
	OK Cancel



c) configure baudrate

Port Settings		
<u>B</u> its per second:	115200	
<u>D</u> ata bits:	8	~
<u>P</u> arity:	None	~
<u>S</u> top bits:	1	~
<u>F</u> low control:	None	~
	<u>R</u> estore	Defaults
	K Cancel	Apply

d) Lastly connect the module and make a call.

4	©021 - HyperTerminal					
ł	File Edit View Call Transfer He	p				
Ê						
	AT OK AT+CSQ +CSQ: 28,0					
	OK AT+CPIN? +CPIN: READY					
	OK AT+CREG ERROR AT+CREG? +CREG: 0,1					
	OK ATD32523408; OK ATH OK					
	onnected 0:00:25 Auto detec	t 115200 8-N-1	SCROLL CAPS	NUM Capture	Print echo	