

GB-DEVB Development Board

User Manual



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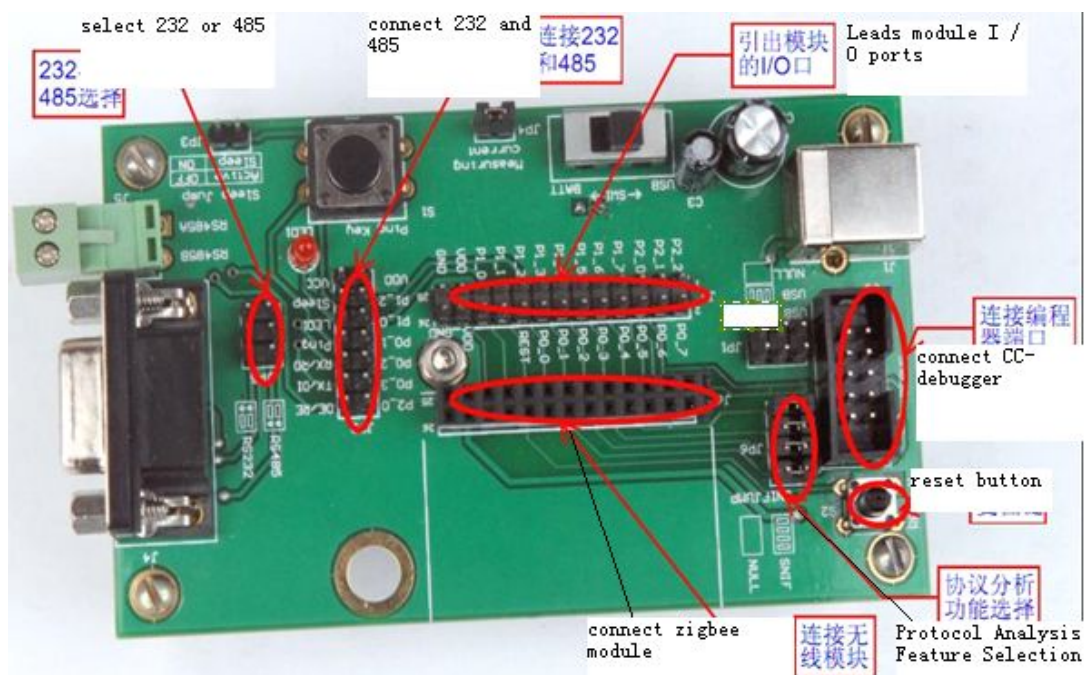
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1、Outline

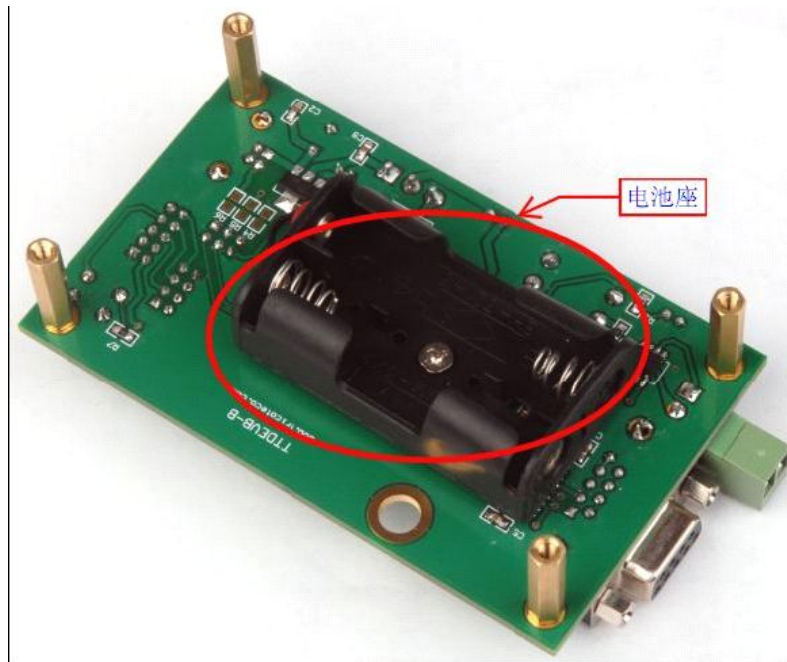
GB-DEVB development board is specially developed design development tools for the Zigbee GB series module (GB2530) . Its Structure is simple, inexpensive, basic interface to meet the needs of developing software. Convenient for the user to save the cost of the LCD screen, and a number of sensors, when the need for external equipment from io Quick Connect.

This development board has a module interface, a CCDEBUG interface, a USB interface, a power selector switch, a measurement of the current interface, an RS232 interface, an RS485 interface, an LED indicator, a button switch, a sleep control jumperone and the 5th battery box, The communication interface part can disconnect the power supply when the the sleep device measuring current power supply disconnect 232,485.

Spirit of simple and practical design of this development board, Physical map as below:



Picture 1:GB-DEVB the front of the development board



Picture 2:GB-DEVB the back of the development board



Picture 3: GB-DEVB development board connected to the GB series modules

2、GB-DEVB Development board function

1. Support the GB series modules of my company, such as GB2530。
2. Realize serial communication, or 485, the connection is simple and convenient。

3. The onboard current test port for easy low-power testing.
4. Coordinate with GBPROG-B programmer online simulation, debugging, Zigbee protocol analysis functions, etc..
5. Dual power supply, USB port power supply / battery-powered.

3、GB-DEVB Development board resources

- 1、1 Road, five-wire serial (RXD, TXD, CTS, RTS, GND);
- 2、2 of the keys (REST_N keys and Ping key);
- 3、1 LED;
- 4、1 JATG programming interface;
- 5、1 group of Zigbee module (GB the Series) pin interface, through a set of interfaces, the user can use any pin resources of the module (GB Series);
- 6、1 set of jumper, through these jumper, development board serial ports, one button, one LED tripped; Zigbee Module (GB series) resources leads pin interface, to facilitate secondary developed using;
- 7、1 group of zigbee module (GB series) fixture, this group fixture, the user can conveniently Zigbee Module (GB Series) fixed on the development board.

4、GB-DEVB Connections and instructions

- 1、Zigbee Module (GB Series) is installed on the development board, as shown in Figure 3.
- 2、A seat installed in the back of the development board dry 5th batteries powered batteries to the development board, (You can also use the USB cable to power supply, "SW1" key at this time to be allocated to the USB direction, on the contrary, is a battery-powered).
- 3、For the serial tools observation data, the nine-pin serial cable with the development board and connected to the PC, as Figure 4. Through the serial port to send data in the JP2 "TX / DI" is connected to the microcontroller serial transmit pin; contrary, "RX / RD" need microcontroller serial receive pin relative to serial.



Figure 4: GB-DEVB development board nine-pin serial cable connection

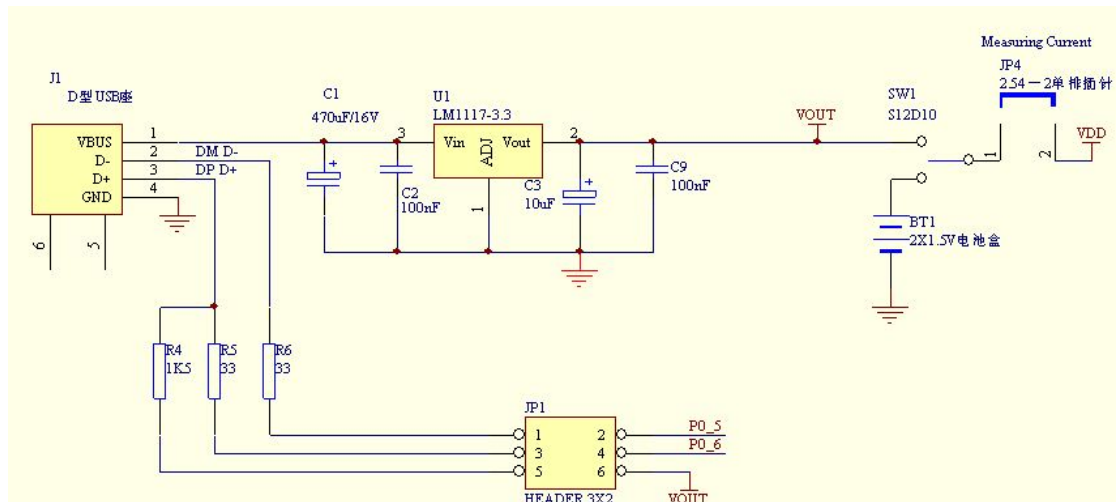
4、RS485, RS232 experiments, JP5 in accordance with the instructions of the development board, jumper.

5、JP4 is convenient to measure the current. Normal working hours, JP4 need to be connected. JP4 disconnected, connected on this second end with an ammeter to measure the current work. With JP3 can measured current sleep and normal work.

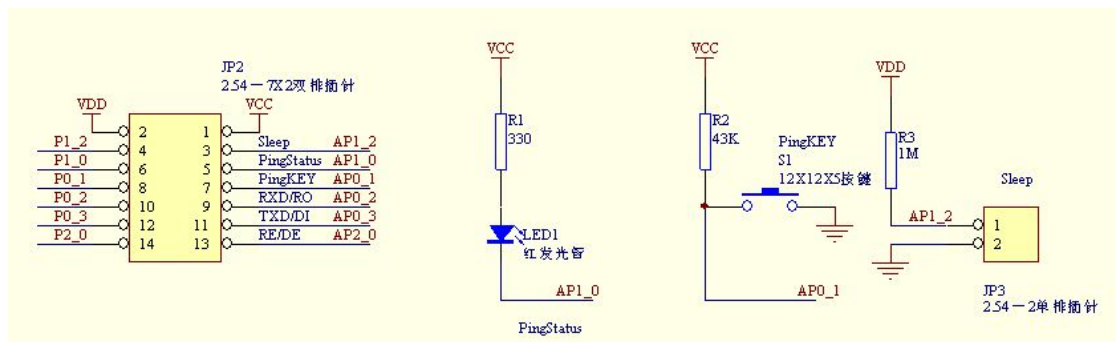
6、LED1 and P1_0 connected, can be used as an indicator.

5、GB-DEVB Development board schematics

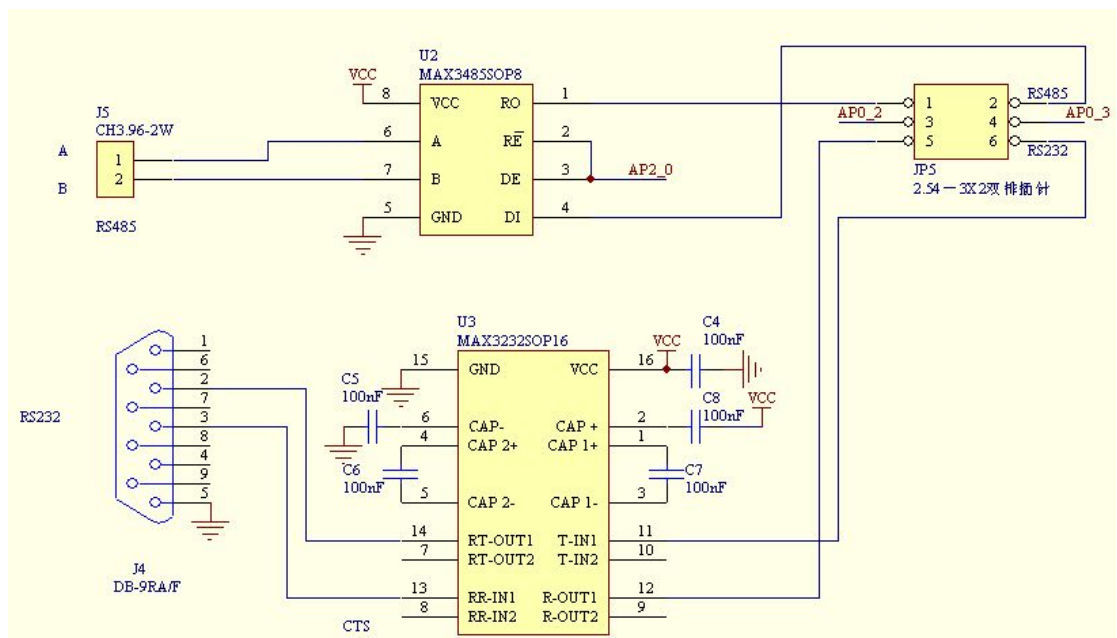
Power section



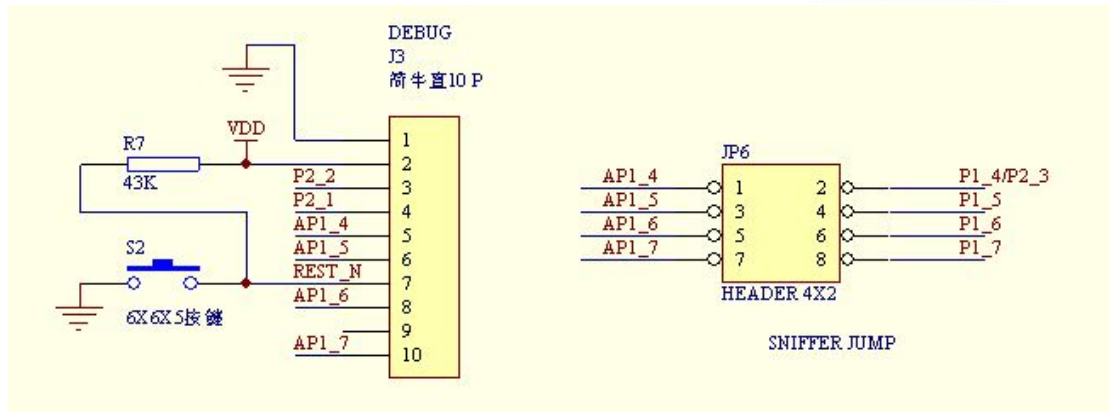
Peripheral connection part



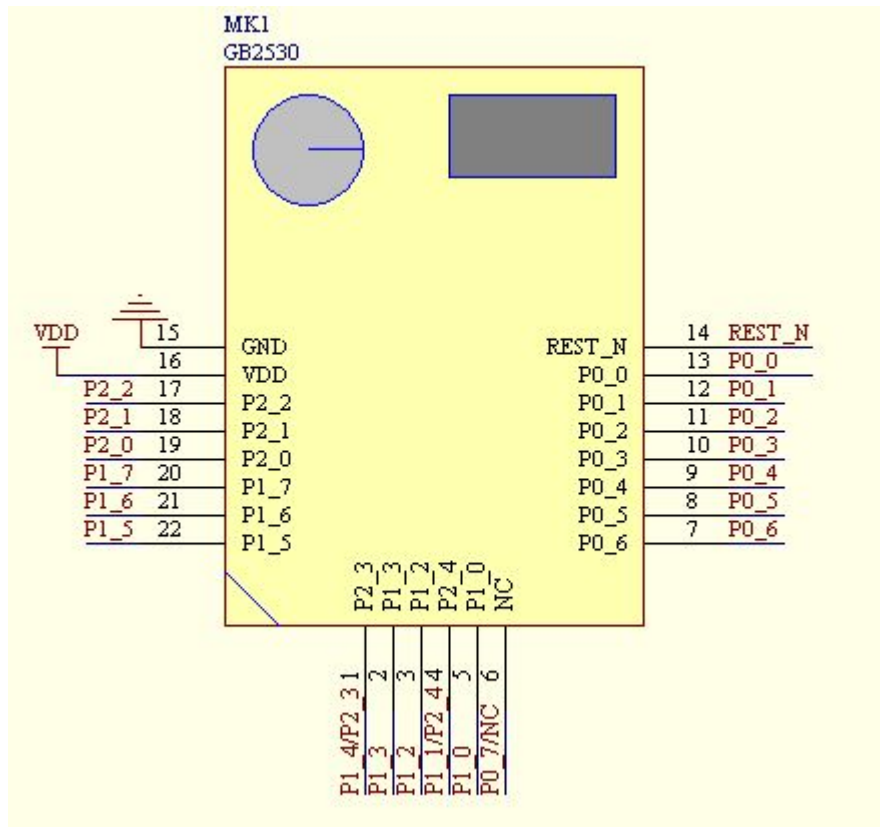
RS232、485 communication part

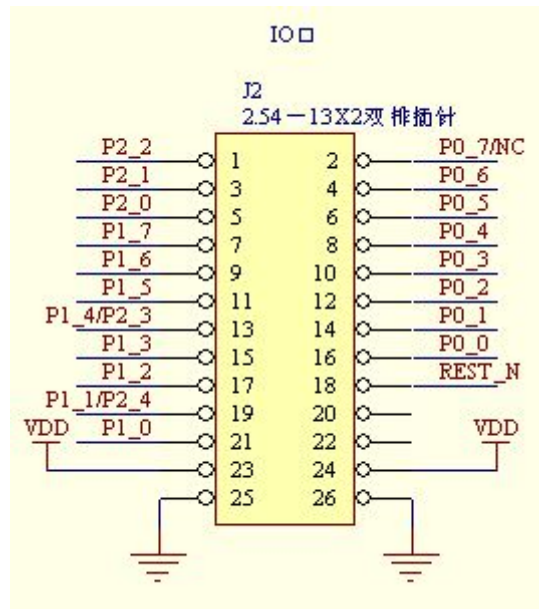
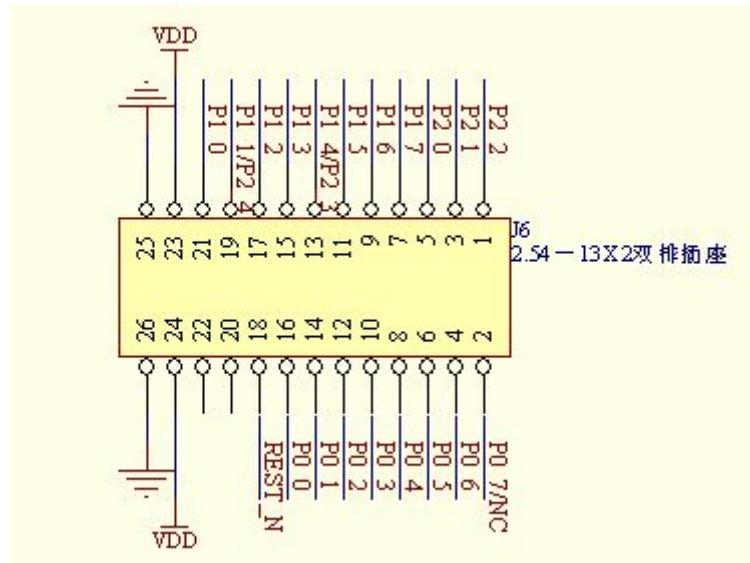


Programming and debugging tools interface



Wireless module interface





Schematic SCH please visit the company's official website to download file

6、Use GB-DEVB Development board download program

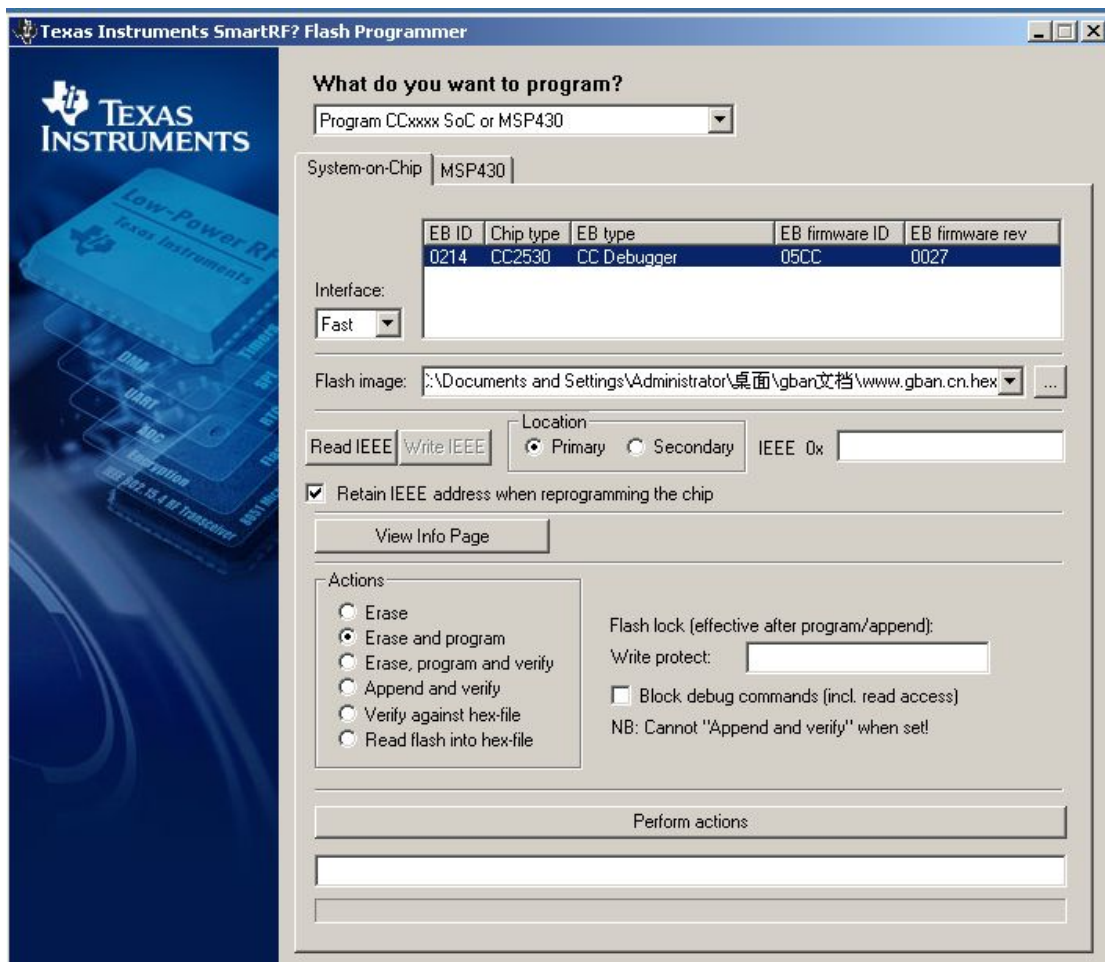
Equipment: (emulator, computer, USB-AB line, JTAG cable, the target board is required)X 1

As below picture, connected development and programmer



If the first use of the emulator, the device is plugged in, prompts to install the driver, specific driver installation steps and software installation steps, please refer to the emulator documentation.

Open SmartRF Flash Programmer software



If chip type part not display CC2530, said the PC is not currently identify chip, Press the reset button of the emulator, green indicates normal connection, a red light indicates connection abnormal or abnormal module. Press the reset in the software when the connection is normal identification chip.

In Flash image parts select need to download part of the hex file

Retain IEEE address when reprogramming the chip, When the download process is whether or not to retain the custom chip Secondary IEEE ADDRESS.

Select Erase ,program and verify

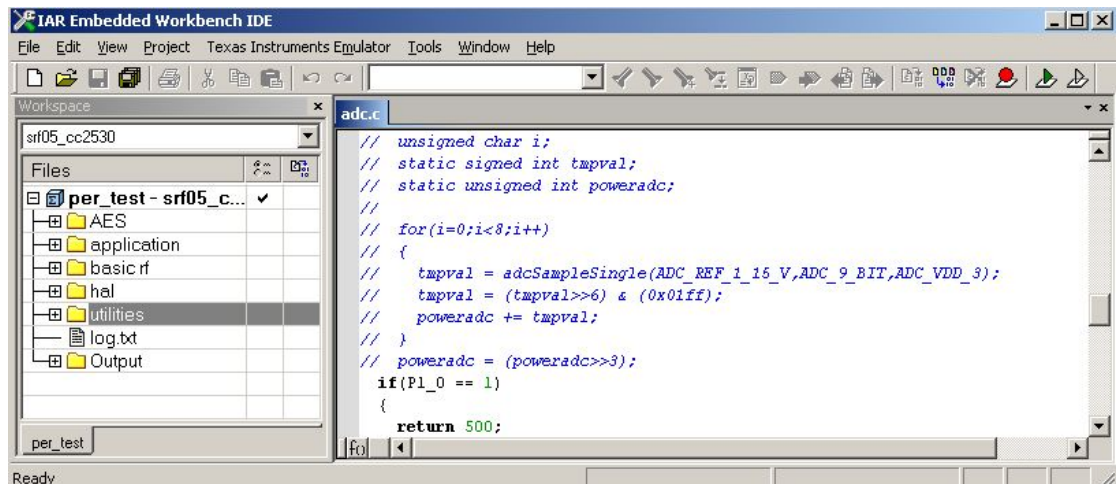
If you need to code protection, selectable the Block debyg commands lock programming interface, Click the button Perform actions prevent readout HEX file output box displays the button below the programming results whether success.

7、Use GB-DEVB Development board online debugging

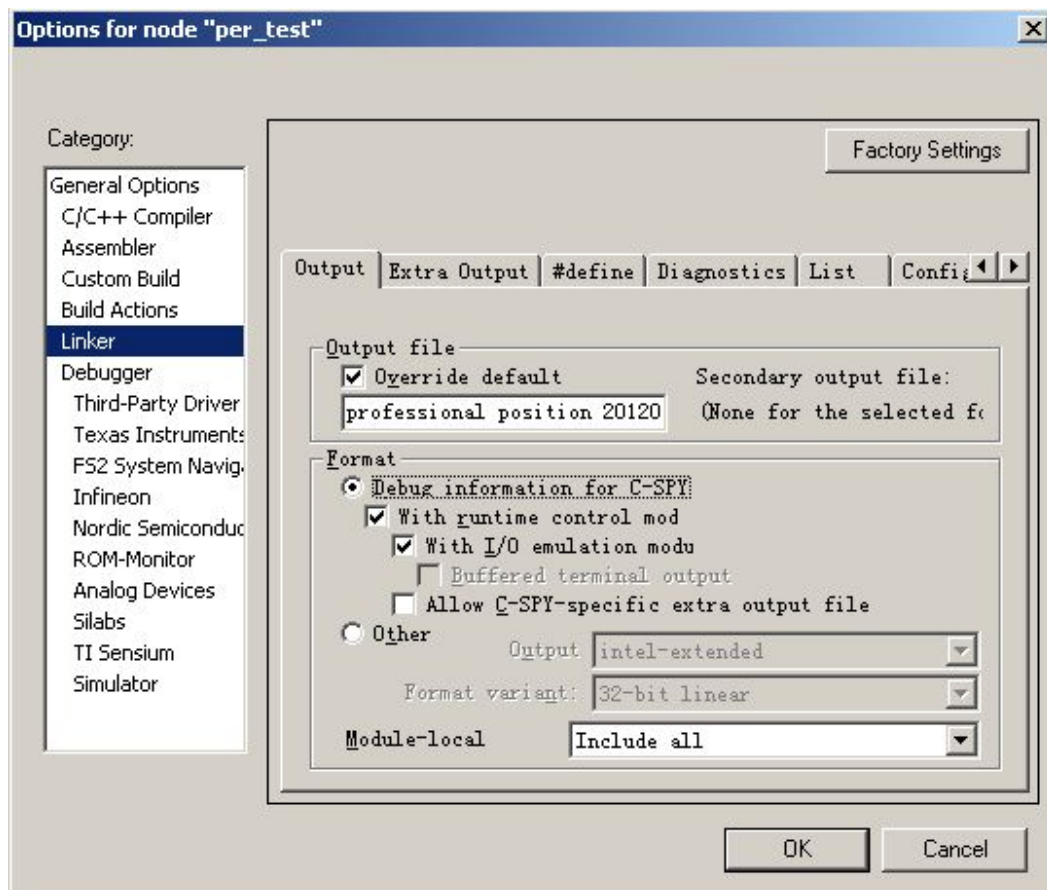
Equipment: (emulator, computer, USB-AB line, JTAG cable, the target board is required) X 1

Using programmer online simulation

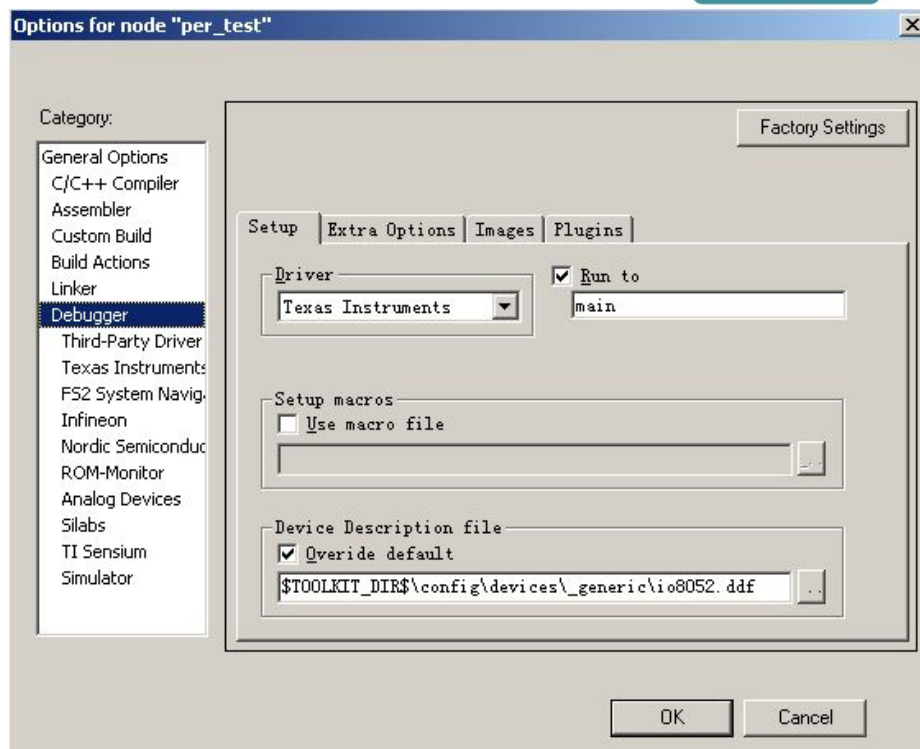
- a) Open IAR Embedded Workbench for MCS-51 Evaluation of IAR Embedded Workbench compilation environment



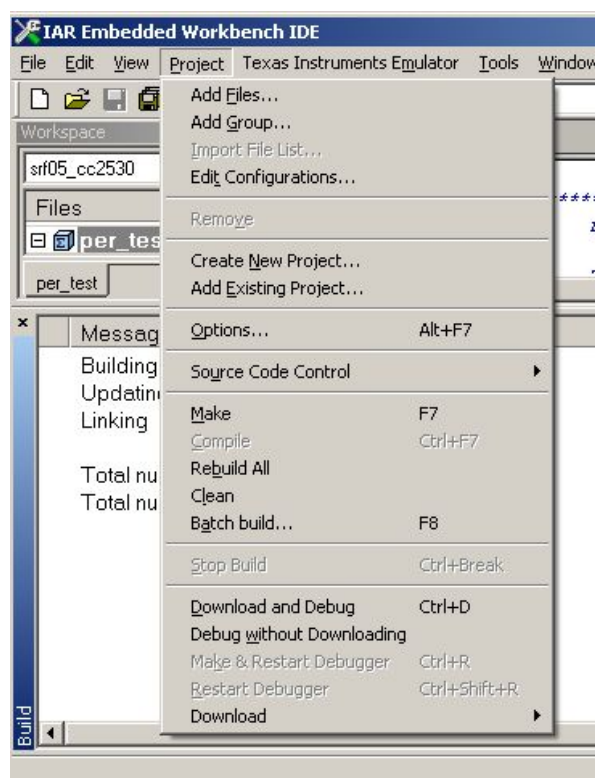
- b) Alt+F7 Open project options. When you can open it by right clicking on the project name, select, or select Select Options to open the Project.
- c) Select Options to open Linker , select Format Debug information under Format for C-SPY

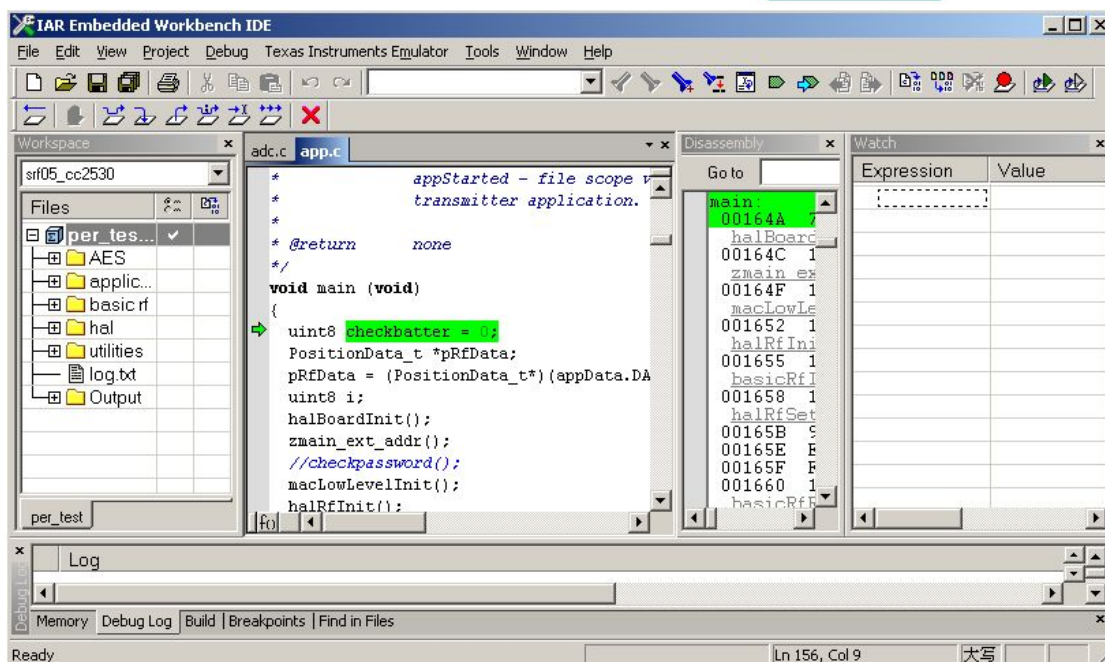


- d) Select Debugger to open Setup;
- e) To select Driver option in the drop-down box, select the Chipcon, instead Simulator; thus completing the compilation environment settings, you can use the programmer online download or online simulation debugging.



Select DEBUG



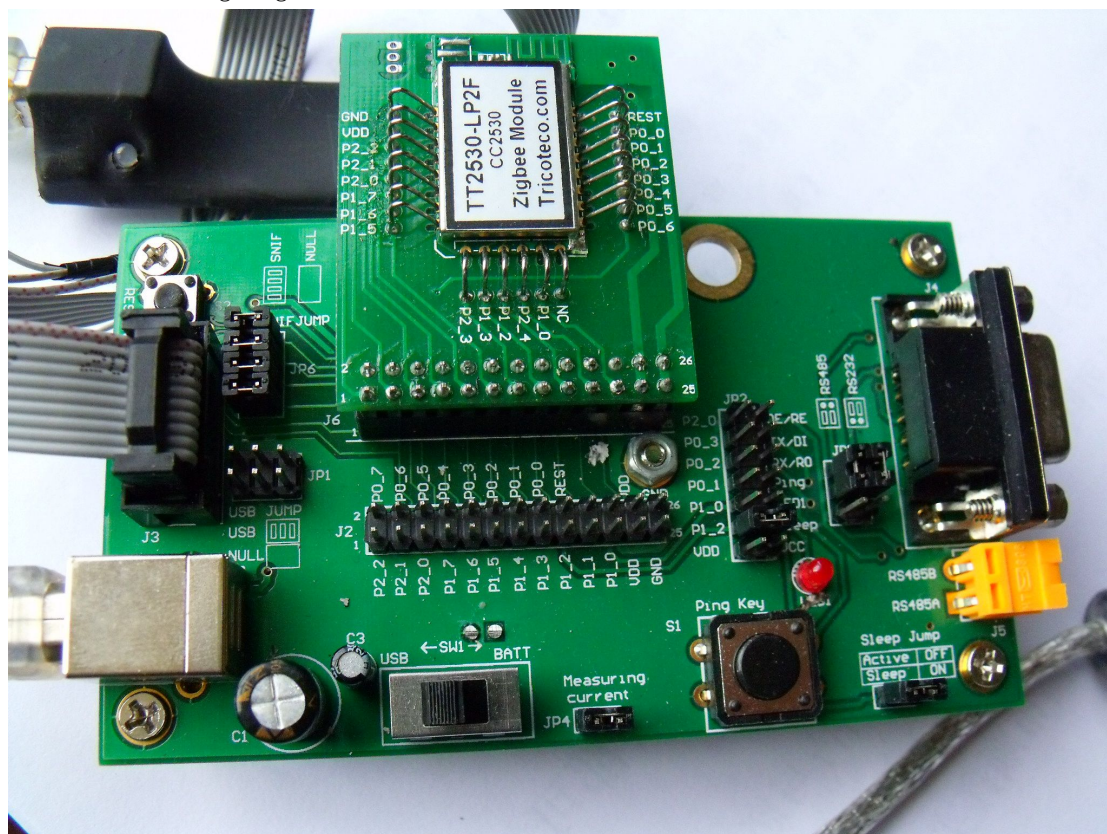


Online debugging can view variables, memory, registers, etc., you can set breakpoints, single-step, full-speed debugging details please read IAR help documentation.

8、 Use GB-DEVB Protocol analysis

Equipment: (emulator, computer, USB-AB line, JTAG cable, the target board is required)X 1

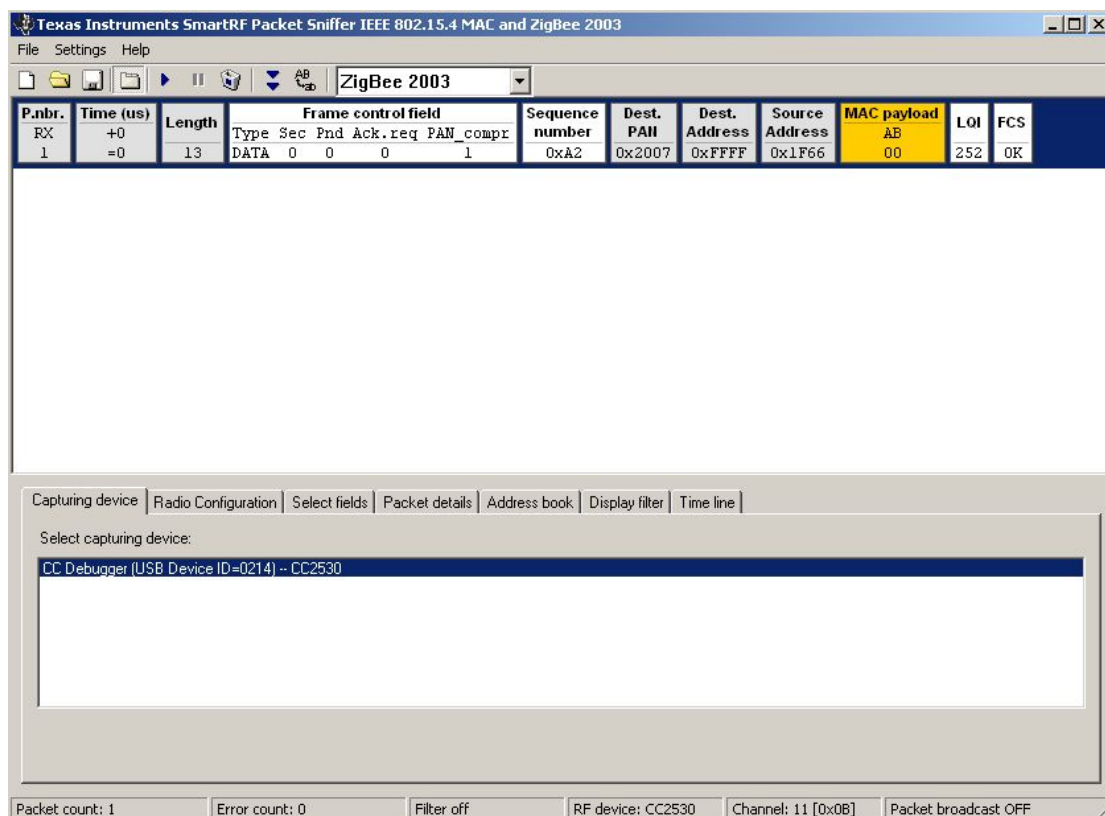
Connect the emulator and development boards, protocol analyzer does not support high-power module, pls use low power module, connected jumper SNIF JUMP. As shown in the following figure



Open Packet Sniffer software. As below figure:



Select the corresponding application protocol, after started as below figure



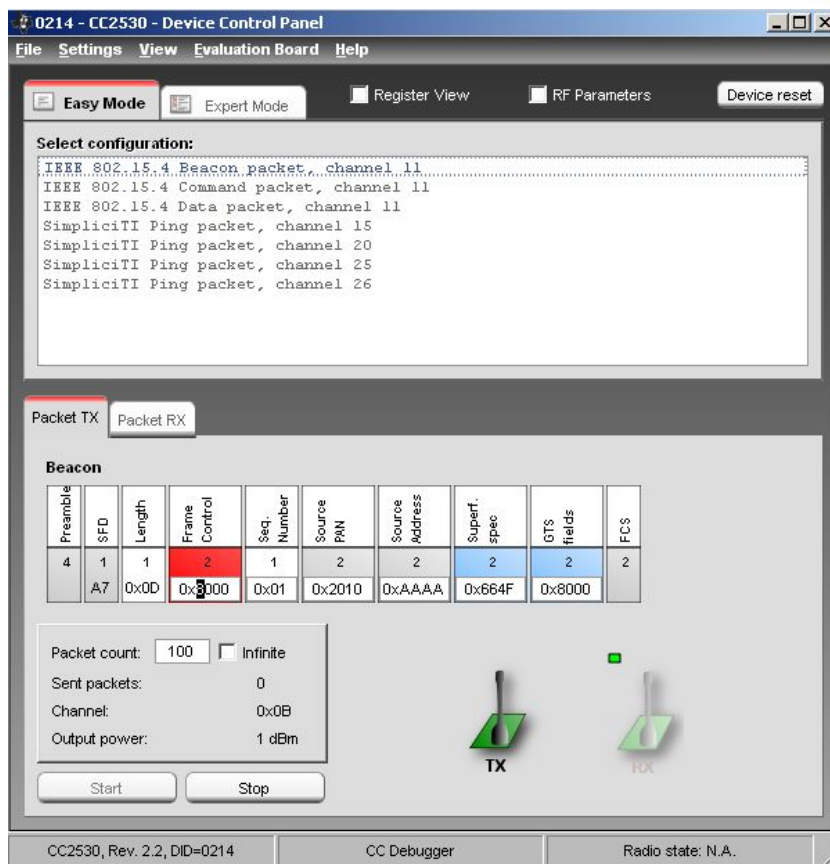
Select equipment, channel options, configured to start. SNIFFER detailed instructions, please refer to the help documentation within the HELP.

9、Use GB-DEVB Communications test with SmartRF Studio

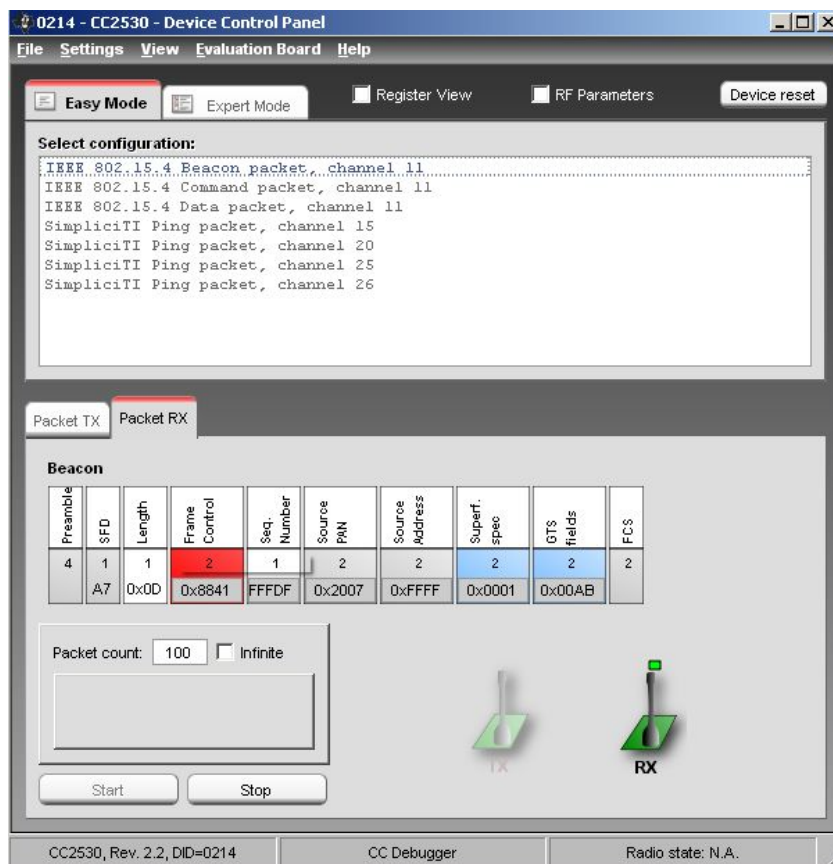
equipment: (emulator, computer, USB-AB line, JTAG cable, target board) X2
Connect the hardware connection download programs or hardware online simulation.



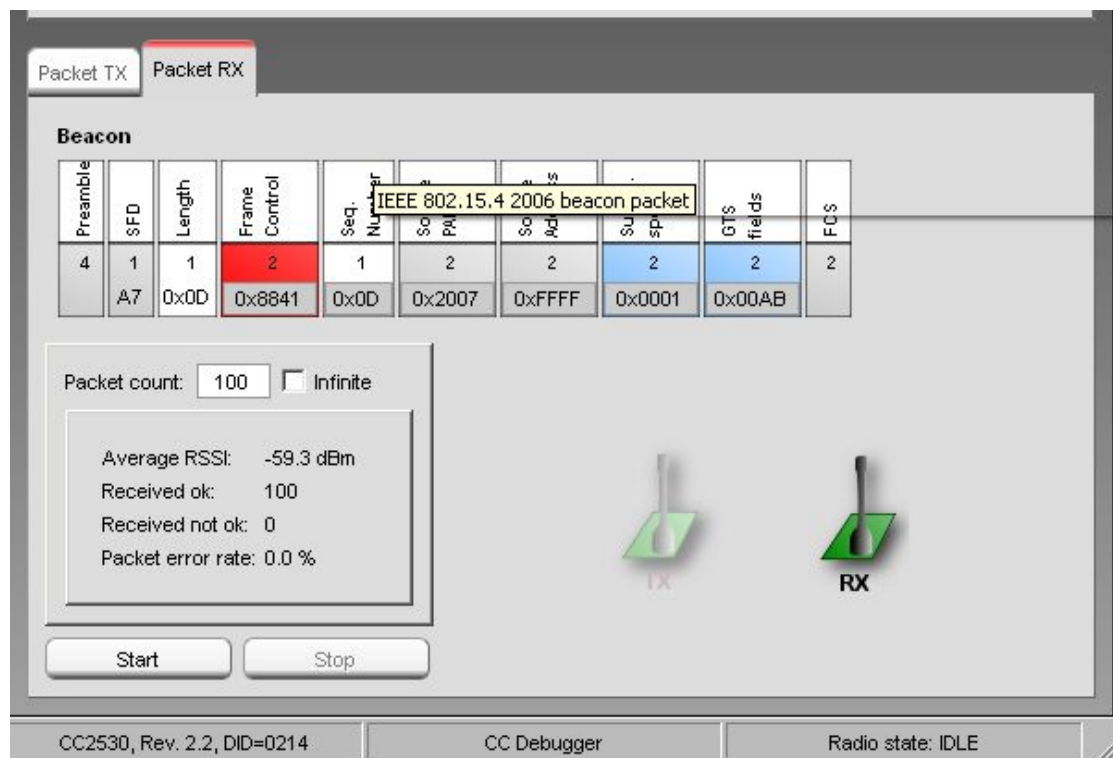
Double-click the CC2530, open interface is as below



Receiving end configuration channel in order to receive.



Note to receive and send part of the interface display area size. Otherwise, the information may not be displayed



Proposed to maximize the window. Software use in detail, please refer to the help documentation.