



ShenZhen World Elite Technology Co.,LTD.

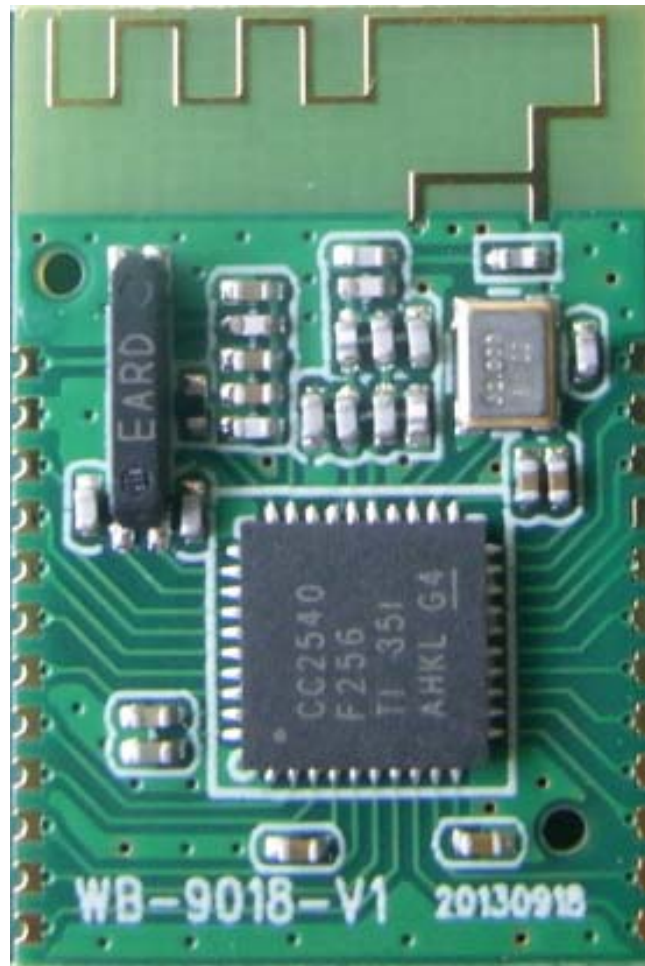
User Manual

WB-9018

Brand name: World Elite

FCC ID:2ABCHWB-9018

2.4-GHz Bluetooth[®] Low Energy (BLE) Module





● overview

The module could work in Bridge mode (Transmission mode) and direct drive mode.

Module will broadcast automatically when it start up, phone running specified APP will scan and pair it, you would monitor it after they paired.

Bridge mode, user' s MCU could communicate with mobile device bidirectional by the Universal serial port of module; user also could configure certain communication parameters through specially appointed COM AT commands. The specific meaning of user' s data is defined by upper levels application itself. Mobile device could write data into module by its APP, then data transmit to user' s MCU through UART port; Data packets will transmit to mobile device automatically which module received them from MCU UART port.

Direct drive mode, user control module by APP BLE protocol so that smart device could monitor and control module, user only need to design APP of smart mobile device under this case.

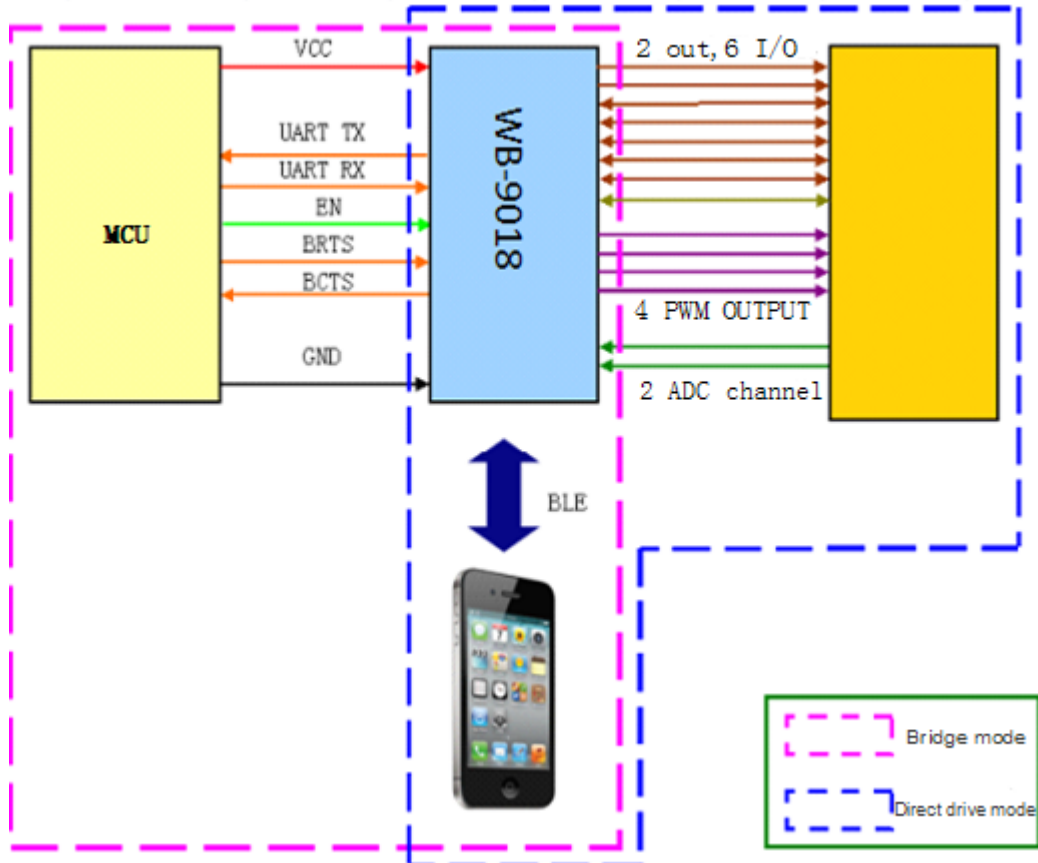
● DESCRIPTION:

- 1 . the use of simple, without any Bluetooth protocol stack application experience;
- 2 . user interface using a universal serial communication design, full duplex, low baud rate 4800bps;
3. also support the bridge mode (serial transmission), or direct drive mode (without CPU);
4. default 20ms connection interval, quick connection;
5. support AT commands to modify the serial baud rate, software reset module, to obtain MAC address, modify the module name;
6. support AT instruction to regulate the Bluetooth connection interval, control the forwarding rate of different. (dynamic power adjustment);
7. serial data packet length, can be 200byte the following (including 200) of arbitrary length. (ladle automatic distribution);
8. speed transmission forwarding, up to 4K/S, can work in 2.5K-2.8K;
9. support for mobile devices APP to modify the module name, save the power down;
10. support for mobile devices APP to modify the serial baud rate, save the power down;
11. support for mobile devices APP for remote reset module;
12. support for mobile devices APP Bluetooth connection interval, power down is not preserved. (dynamic power adjustment);
13. quick test, without any external connection parts test wireless and serial communication;

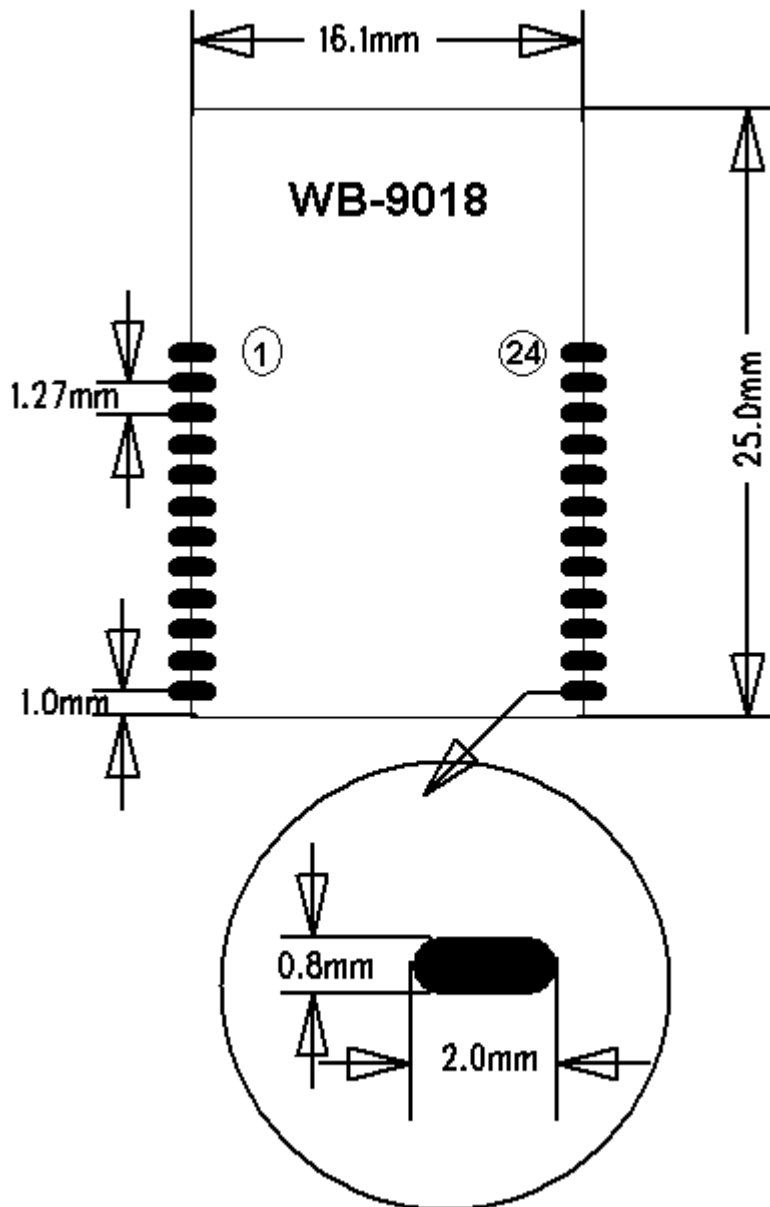


14. includes a debug port, IO expansion;
15. support the connection state, broadcasting state prompt foot / IO flexible configuration;
16. 6 bidirectional programmable IO, external interrupt trigger input detection, low power operation. (trigger alarm, lighting control, remote control toys, etc. various kinds of input and output switching applications);
17. 2 programmable timing single / loop reversal output port. (Intelligent appointment timing application);
18. two ADC input (14 bit), enable / disable, sampling period of free allocation. (temperature and humidity, photometric applications);
19. four programmable PWM (120Hz) output. (light, speed and other applications);
20. Module end RSSI continuous acquisition, readable can automatically notify APP, enable / disable, sampling frequency set free. (anti lost alarm application objects);
21. support the anti hijacking password settings, modify and recovery, prevent malicious third party. Also can not use. The password operation results independent advice, for APP programming;
22. supports single pin down (press) 3S restore factory settings;
23. support AT instruction to adjust transmit power;
24. support AT instruction modification broadcast interval;
25. support AT instruction additional custom broadcast data, custom equipment identification code;
26. support AT instruction set data delay (user CPU serial port to receive the preparation time);
27. support PWM output initialization state custom (full high, low, power down before PWM output value);
28. PWM frequency custom (61.036 Hz \leq f 8 kHz, the default 120Hz);
29. broadcast content presentation module real-time system status, including the battery, custom equipment identification code, four PWM output current value, the current IO status;
30. very low power standby mode

● Schematic diagram of working mode



● Package Information





● Pin Function Descriptions

Pin	Pin Name	port	Input / output	Description
1	VCC	/	/	Module power anodal 3.3V
2	GND	/	/	Module ground GND
3	I07	P2. 2	0	The output port (time reversal) / sleep status indication
4	I06	P2. 1	0	The output port (time reversal) / connection status indication
5	EN	P2. 0	I	Modules enable line, low effective, with internal pull up
6	I05	P1. 7	I/O	General purpose I/O pin
7	I04	P1. 6	I/O	General purpose I/O pin
8	USB+	/	I/O	USB+
9	USB-	/	I/O	USB-
10	I03	P1. 5	I/O	General purpose I/O pin
11	I02	P1. 4	I/O	General purpose I/O pin
12	I01	P1. 3	I/O	General purpose I/O pin
13	RESET	P1. 2	I/O	Restore factory settings trigger or General purpose I/O pin
14	PWM1	P1. 1	0	PWM output channel 1
15	PWM2	P1. 0	0	PWM output channel 2
16	PWM3	P0. 7	0	PWM output channel 3
17	PWM4	P0. 6	0	PWM output channel 4
18	BRTS	P0. 5	I	As the data request to send (used to wake up the module)
19	BCTS	P0. 4	0	Data input signal (used to wake up the host, optional)
20	TX	P0. 3	0	UART data output
21	RX	P0. 2	I	UART data input
22	ADC1	P0. 1	I	A/D converter analog input channels 1
23	ADC0	P0. 0	I	A/D converter analog input channels 0
24	RES	/	I	Module reset, active low

Attention: Limited Modular Approval - this RF Module may not be sold to the generic public and requires professional installation.

Due to the fact that this RF Module is not equipped with an own shielding, the end-product incl. this RF Module has to show compliance to the FCC rules (15B / radiated emissions).

(OEM) Integrator has to assure compliance of the entire end-product incl. the integrated RF Module. Additional measurements (15B) and/or equipment authorizations (e.g Verification) may need to be addressed depending on co-location or simultaneous transmission issues if applicable.

Integrator is reminded to assure that these installation instructions will not be made available to the end-user of the final host device.

With the low output power, this RF Module meets the FCC SAR exemption and can be therefore integrated into any (portable, mobile, fixed) host device.

The final host device, into which this RF Module is integrated" has to be labelled with an auxiliary label stating the FCC ID of the RF Module, such as "Contains FCC ID: 2ABCHWB-9018".

Depending on the size of the final end-product, the §15.19 FCC statement "This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation."

should be placed also on the device or alternatively within a prominent location of the users manual

The §15.21 "Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment." statement has to be included in a prominent location of the users manual