Bluetooth Module
USER GUIDE
FCC ID: S6OBLUEFRUIT

The purpose of this manual is to explain the correct way to integrate module model number: Bluefruit to the end product. It includes procedures that shall assist you to avoid unforeseen problems.

This manual presents information that shows how module and OEM product, where module integrated, complies with regulations in certain regions. Any modifications, not expressly approved by the manufacturer could void the authority to operate in these regions.

Content

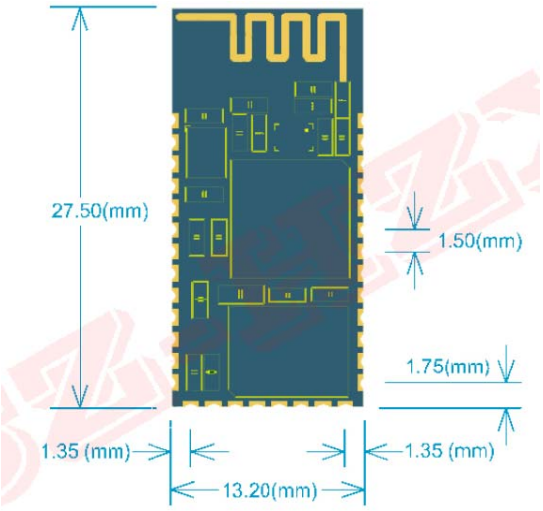
1. General

This Bluetooth Module has to be installed and used in accordance with the technical description/installation instructions provided by the manufacturer.

- A single chip radio and baseband IC for Bluetooth 2.4GHz
- Fully Qualified Bluetooth v2.0+EDR,Enhanced Data Rate (EDR) compliant with v2.0.E.2 of specif cation for both 2Mbps and 3Mbps modulation modes.
- Integrated 15-bit Linear 8KHz Sample Frequency Audio CODEC in one chip
- Full Speed Bluetooth Operation with Full Piconet
- Scatternet Suppor
- 1.8V core, 1.8 to 3.6V I/O
- OSC frequency: 26M
- UART Max: 1382400bps
- PCB RF antenna
- DFU software upgrade
- USB/UART port
- SPI port
- POWER: 2.7V to 3.6V
- 8Mbit Flash
- Low consumption : Park, Sniff, Hold and Deep Sleep
- Safety Certificate and Data Encryption
- Industrial Design
- SIZE: 27.5 x 13.2 x 2m

This radio module has been certified under FCC Part 15.247 for use in the United States.

For detailed information concerning certification of this please contact the authorized local distributor or the manufacturer.



The system may only be implemented in the configuration that was certified. Note that any changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.
FCC RF Radiation Exposure Statement: This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transceiver must not be co-located or operating in conjunction with any other antenna, transmitter, or external amplifiers. Unauthorized modification could void authority to use this equipment.

2. Labeling.

Adafruit Industries Bluetooth Module

Model number: Bluefruit

labeled as below.

NOTE: Host device must be labeled with:

Contains TX FCC ID:S6OBLUEFRUIT

FCC Regulatory Information. OEM device should contain labeling that:

Approved in accordance to FCC rules transmitter module marked by FCC ID: S6OBLUEFRUIT, manufactured by CIXI INTEC ELECTRONIC CO., LTD. to OEM product. When it's not possible, user manual should include such information.

For example:

"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." This device contains FCC ID: S6OBLUEFRUIT.

Bluetooth Module, model number: Bluefruit can be incorporated into many different devices. The modules generally consist of a completely self-contained radiofrequency transceiver missing only a power source to make it functional. Once the modules are authorized by the Commission under our certification procedure, they may be incorporated into a number of mobile devices.The completed product generally is not subject to requirements for further certification by the FCC.

3. Other regulatory notes for OEM.

Modular transmitters save manufacturers the time and any related expenses that would be incurred if a new equipment authorization were needed for the same transmitter when it is installed in a new device. This means that it can be integrated into end products without further testing or approval listing. The manufacturer must state the CIXI INTEC ELECTRONIC CO., LTD. part number and product reference in his literature in order to meet the module requirements and regulatory. This should be clearly indicated in the OEM manuals.

The purchaser / integrator (developer) must satisfy all relevant FCC, SAR, EMC and Radio regulations which apply to their finished product. We believe such parties have the technical competence to ensure that the systems they deploy continue to comply with all those rules.

It is illegal to use amplifiers or higher gain antennas with this module. Maximum supply voltage allowed is 3.7Vdc

4. Antenna Specification

Antenna Manufacturer: CIXI INTEC ELECTRONIC CO., LTD.
Dimension: 11.85mm x 3.2mm

Center frequency 2452MHz
Antenna gain-2.215dBi max.
Impedance 50Ω VSWR 2max.
Temperature range
Operating 0°C to +40°C
Storage –40 to +70°C

5. Separate Approval.

A separate approval of the device into which the module is incorporated is only required when it cannot be insured that the conditions on the module grant will be met. The purchaser must satisfy all relevant FCC, EMC and Radio regulations R&TTE directive which apply to their finished product.

6. Integration Instruction

	NAME	TYPE	Describe
1	UART_TX	CMOS output Tri-stable with weak internal pull-up	UART Data output
2	UART_RX	CMOS input with weak internal pull-down	UART Data input
3	UART_CTS	CMOS input with weak internal pull-down	UART clear to send, active low
4	UART_RTS	CMOS output, tri stable with weak internal pull-up	UART request to send, active low
5	PCM_CLK	Bi Directional	Synchronous PCM data clock
6	PCM_OUT	CMOS output	Synchronous PCM data output
7	PCM_IN	CMOS Input	Synchronous PCM data input
8	PCM_SYNC	Bi Directional	Synchronous PCM data strobe
9	AIO0	Bi Directional	Programmable input/output line
10	AIO1	Bi Directional	Programmable input/output line
11	RESET#	CMOS input with weak internal pull-up	internal pull-up Reset if low. Input debounced so must be low for >5ms to cause a reset
12	VCC	3.3V	Integrated 3.3V (+) supply with On-chip linear regulator output within 3.15-3.3V
13	GND	VSS	Ground
14	AIO2	Bi Directional	Programmable input/output line
15	USB_DN	Bi Directional	USB-
16	SPI_CSB	CMOS input with weak internal pull-up	Chip select for serial peripheral interface, active low

17	SPI_MOSI	CMOS input with weak internal pull-down	Serial peripheral interface data input
18	SPI_MISO	CMOS input with weak internal pull-down	Serial peripheral interface data Output
19	SPI_CLK	CMOS input with weak internal pull-down	Serial peripheral interface clock
20	USB_DP	Bi Directional	USB +
21	GND	VSS	Ground pot
22	GND	VSS	Ground pot
23	PIO0	Bi Directional RX EN	Programmable input/output line, control output for LNA(if fitted)
24	PIO1	Bi Directional TX EN	Programmable input/output line, control output for PA(if fitted)
25	PIO2	Bi Directional	Programmable input/output line
26	PIO3	Bi Directional	Programmable input/output line
27	PIO4	Bi Directional	Programmable input/output line
28	PIO5	Bi Directional	Programmable input/output line
29	PIO6	Bi Directional	Programmable input/output line
30	PIO7	Bi Directional	Programmable input/output line
31	PIO8	Bi Directional	Programmable input/output line
32	PIO9	Bi Directional	Programmable input/output line
33	PIO10	Bi Directional	Programmable input/output line
34	PIO11	Bi Directional	Programmable input/output line

7. FCC Regulatory Information.

Adherence to the following is required:

IMPORTANT: OEMs must test their final product to comply with unintentional radiators (FCC section 15.107 and 15.109) before declaring compliance of their final product to Part 15 of the FCC Rules.