



Bluetooth Low Energy (BLE) Module
FN-CC2541
User Manual / User Guide

1. Introduction

FN-CC2541 is 2.4GHz Bluetooth low power system on chip (SoC), support 250kbps, 500kbps, 1Mbps and 2Mbps data rate, with connecting budget excellent, but the front end the application, receiving 1Mbps with a sensitivity of -94dBm, mainly used in the 2.4GHz Bluetooth low energy system, personal 2.4GHz system, man-machine interface such as a keyboard, mouse, and remote control etc., sports and leisure equipment, mobile phone accessories and consumer electronics.

1.1 Overview

The block diagram for the module is shown in Figure 1. The modules can be roughly divided into one of three categories: CPU-related modules; modules related to power, test, and clock distribution; and radio-related modules.

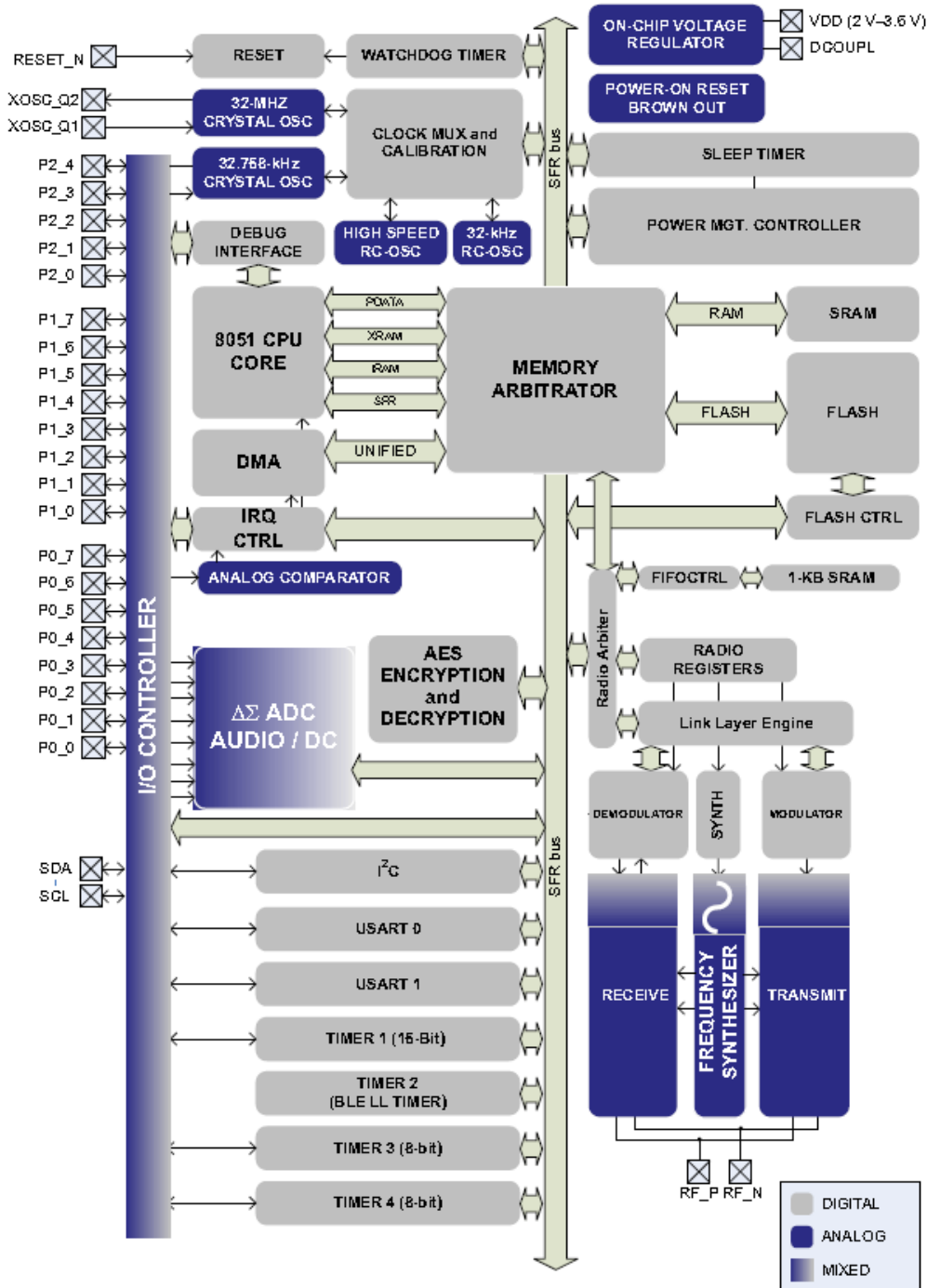


Figure 1. Block Diagram

1.2 SOFTWARE FEATURES

Sample Applications and Profiles

Generic Applications for GAP Central and Peripheral Roles
Proximity, Accelerometer, Simple keys, and Battery GATT Services
More Applications Supported in BLE Software Stack

Multiple Configuration Options

Single-chip configuration, allowing applications to run on CC2541
Network processor interface for applications running on an external microcontroller

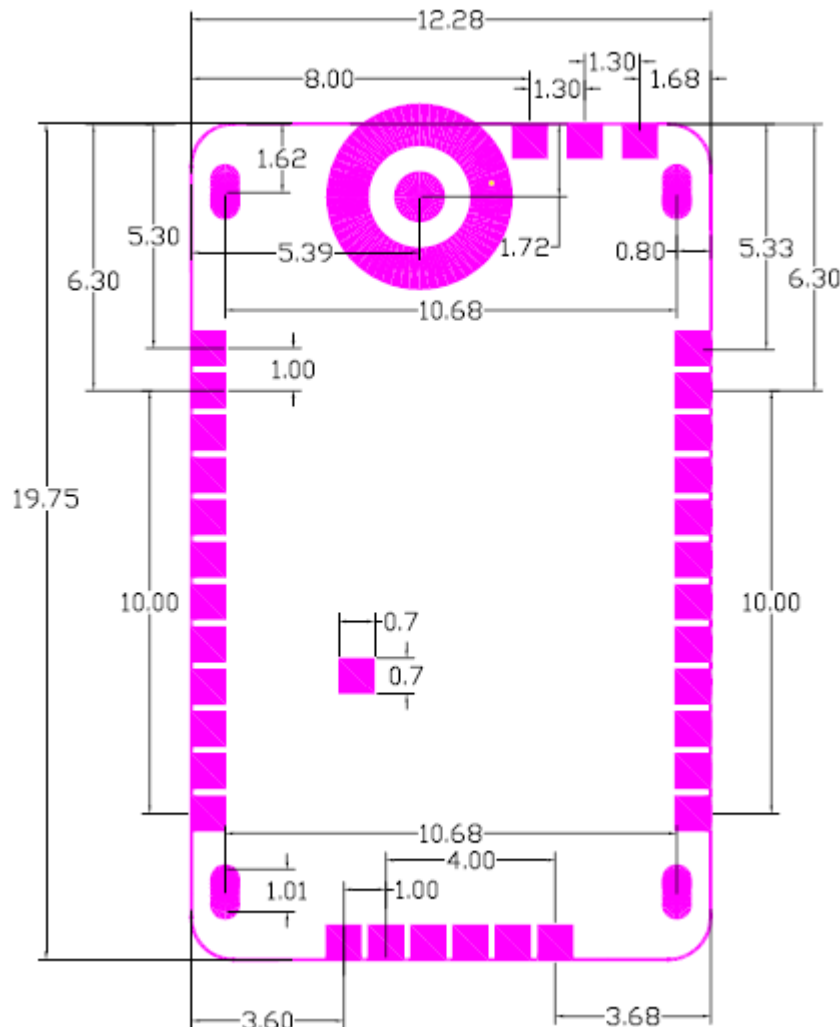
BTool-Windows PC application for evaluation, development, and test

1.3 APPLICATIONS

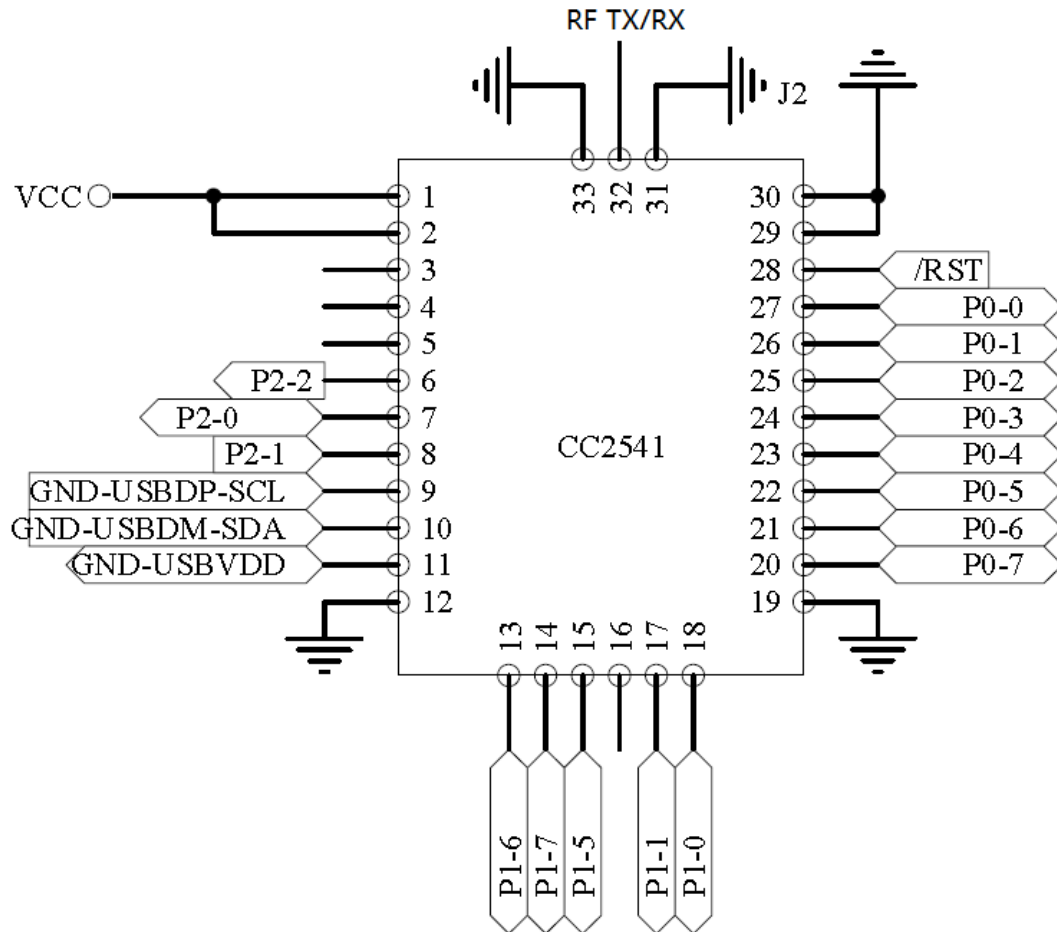
2.4GHz Bluetooth low energy systems
Proprietary 2.4GHz systems
Human-interface devices (Keyboard, Mouse, Remote Control)
Sports and leisure equipment
Mobile Phone accessories
Consumer electronics

2. Mechanical Specification

2.1 Outline Drawing



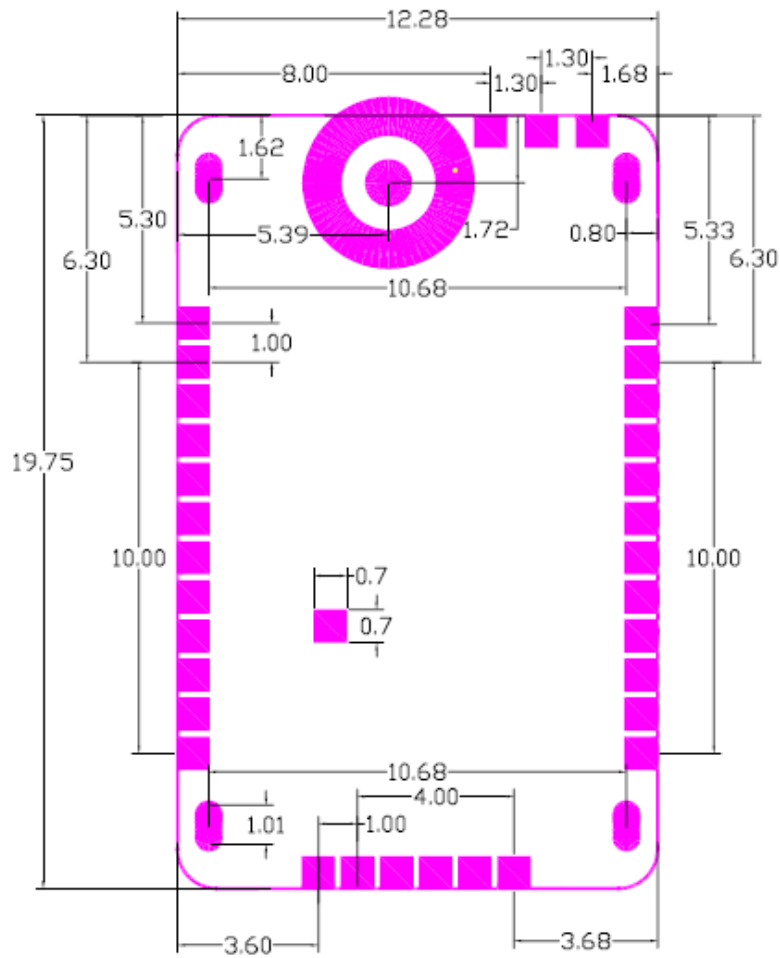
2.2 Connector Pin Definition



Pin #	Name	Description
1	VCC	2-3.6V
2	VCC	2-3.6V
3	NC	NOP
4	NC	NOP
5	NC	NOP
6	P2-2	
7	P2-0	
8	P2-1	
9	GND	USBDP-SCL
10	GND	USBDM-SDA
11	GND	USBVDD
12	GND	GND
13	P1-6	

14	P1-7	
15	P1-5	
16	NC	NOP
17	P1-1	
18	P1-0	
19	GND	GND
20	P0-7	
21	P0-6	
22	P0-5	
23	P0-4	
24	P0-3	
25	P0-2	
26	P0-1	
27	P0-0	
28	RST	RESET
29	GND	GND
30	GND	GND
31	GND	J2
32	TX/RX	RF TX/RX
33	GND	GND

2.3 Layout reference

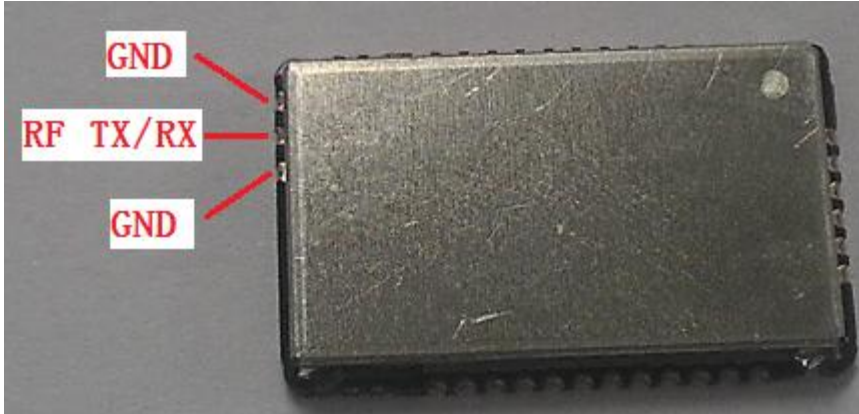


3. Antenna Specification

Antenna plate	FPC antenna
Antenna gain	0dBi
Frequency range	2.4GHZ-2.483GHZ
POWER	0dBm
Connector type	Fixed antenna
company name	HJ HECH

4. Antenna Installation Guide

4.1 Check FN-CC2541 Module connection pin is clean for soldering.



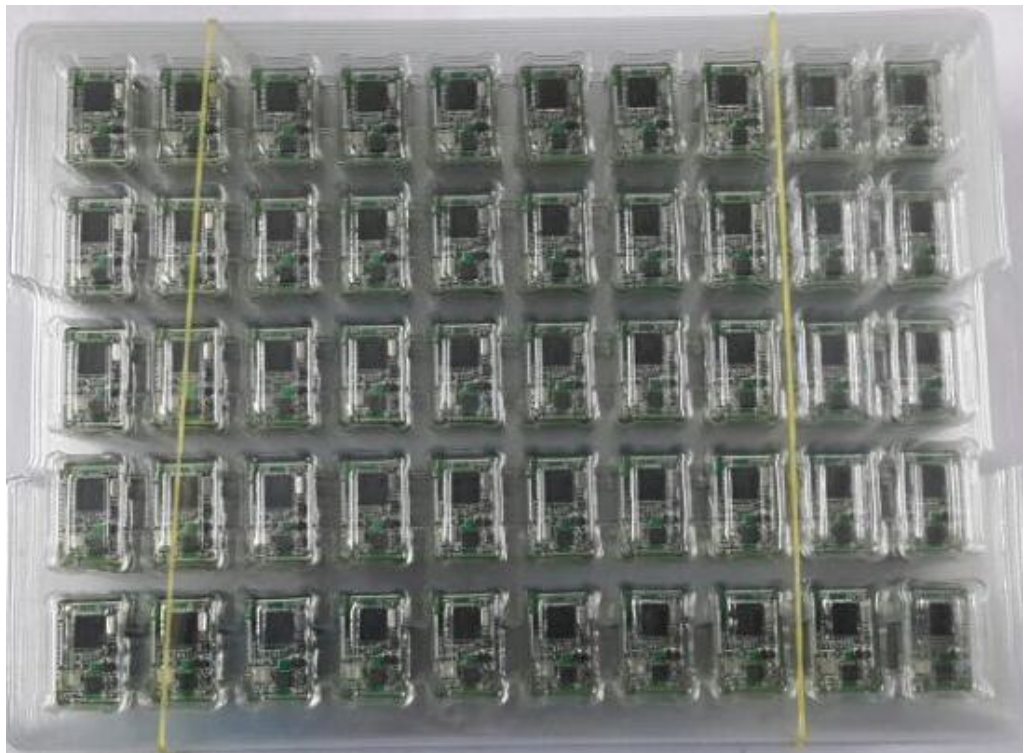
4.2 Place the Module on the Master PCB. Then solder it.



4.3 After soldering, Check all pads are well connected.



5. Package
5.1 blister packaging



Vacuum packaging



A piece of 50 PCS (500 pcs/bag)

FCC Statement:

The final end product must be labeled in a visible area with the following "Contains TX FCC ID:2AATL-FNCC2541". If the size of the end product is smaller than 8x10cm, then additional FCC part 15.19 statement is required to be available in the users manual:

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 equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement:

This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. The OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

This device is intended only for OEM integrators under the following conditions:

1)This module is granted as a Single Modular Approval.

2)This device has been designed to operate with a FPC antenna having a maximum gain of 0dBi.Only this type of antenna may be used.