NC880(CC2530+2591)Zigbee Wireless Module

2.4G wireless module

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Outline

NC880 wireless module uses TI's high performance SOC chip CC2530 development, is a complete, low cost, highly integrated 2.4G transceiver designed for low-power wireless application design. CC2530 is an IEEE 802.15.4, ZIGBEE RF4CE applications and systems on a chip, which integrates the radio transceiver and an industry-standard enhanced 8051MCU, system programmable flash memory, 8KB RAM and many other powerful features.

We will provide a complete hardware and software reference solution to shorten product development cycles, cost savings for your input.

Basic Features

Supports accurate digital RSSI / LQI

Rate: 250kbps

Modulation: O-QPSK

On-board PCB antenna and antenna transposons, may need to link other types of transposons by IPEX antenna

Active mode RX (CPU idle) 24mA

TX Active mode in 1dbm (CPU idle): 29mA

Power mode 1 (4us wake): 0.2mA

Power Mode 2 (Sleep timer runs): 1uA

Power Mode 3 (External Interrupt): 0.4uA

Supply voltage range: 2-3.6V

8051 MCU and peripherals

Powerful 5-channel DMA

Programmable flash memory of up to 256K system

8K RAM under a variety of power supply with data retention

Hardware support CSMA / CA

AES security coprocessor

Battery monitor, and temperature sensor

With 8 inputs and can be configured 12-bit ADC resolution

2 supports multiple serial communication protocols powerful uart

IEEE 802.15.4 MAC timer, general-purpose timers

32K sleep timer with capture
Watchdog Timer
21 general-purpose I / O ports
Hardware debugging support

Applications

◆ 2.4GHz IEEE802.15.4 system
◆ RFC Remote Control System
◆ Zigbee system
◆ Home / Building Automation
◆ lighting system
◆ industrial measurement and control
◆ low-power wireless sensor networks
◆ Consumer Electronics
◆ Healthcare

Technical Parameters

Test conditions: Ta = 25 ℃, VCC = 3.3V

Technical Specifications	parameter	Remark
Operating Voltage	DC 2.2-3.6V	
Operating Frequency	2405-2480MHz	
Frequency stability	±30Khz	
Debug mode	O-QPSK	
Emission power	<12dBm	Programmable Configuration
Emission current	<160mA	
Receiver sensitivity	-112dbm	
Receiving current	<24mA	
Sleep Current	0.4uA	Power Mode3
Transmission rate	250Kbps	

Communication distance	1200	Open distance
Antenna impedance	50ohm	
Operating temperature	-20-75℃	
storage temperature	-40-85℃	
Dimensions	36X19.4mm	

Remarks:

1, the communication speed module will affect the communication distance and receiver sensitivity, the higher the rate, the closer the communication distance, the lower the sensitivity.

2, the power supply voltage of the module will affect the transmit power within the operating voltage range, the lower the voltage, the transmission power is smaller.

3, when the module's operating temperature changes, the center frequency will change, they do not exceed the operating temperature range, does not affect use.

4, the antenna has a great impact on the communication distance, please use the matching antenna and correctly installed.

5, the module installation will affect the communication distance.

Instructions:

PCB   Antenna   do not shop underlying copper。

OEM Responsibilities to comply with FCC Regulations:
The Blenie-A20 module has been certified for integration into products only by OEM integrators under the following condition: The transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter. As long as the condition above is met, further transmitter testing will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirement required with this module installed.

End Product Labeling

The Blenie-A20 module is labeled with its own FCC ID. If the FCC ID is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. In that case, the final end product must be labeled in a visible area with the following:

"Contains Transimitter module FCC ID: 2AGQG-NC880

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.

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

The modular can be installed or integrated in mobile or fix devices only. This modular cannot be installed in any portable device, for example, USB dongle like transmitters is forbidden.

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. This modular must be installed and operated with a minimum distance of 20 cm between the radiator and user body.

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains Transmitter Module FCC ID: 2AGQG-NC880 Or Contains FCC ID: 2AGQG-NC880"

When the module is installed inside another device, the user manual of the host must contain below warning statements;

1. 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.

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

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product