ISmart IOT module V2.01

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Descriptions

ISmart IOT module is a wireless module based on IEEE802.15.4 that is low power Personal Area Network. Module is low cost, low power, a low data rate. For smart home application.

Features

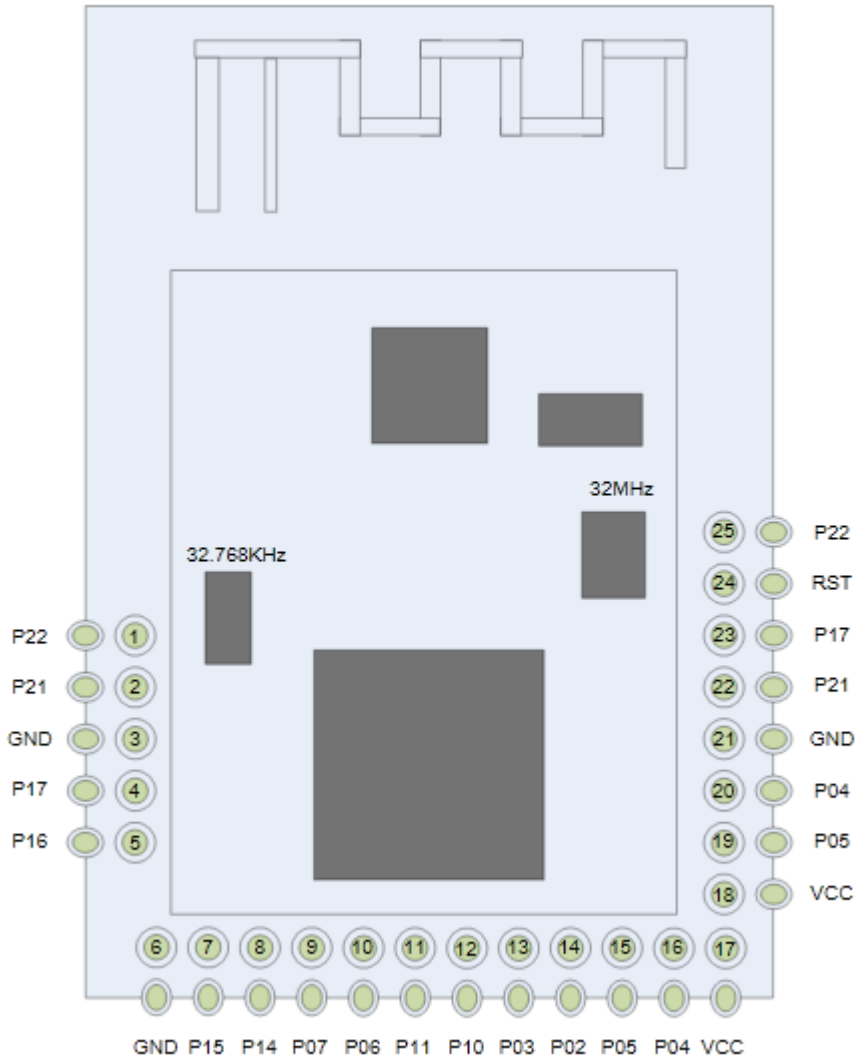
- System-on-Chip Solution
- 802.15.4 wireless type
- High-Performance and Low-Power 8051 Microcontroller Core
- Hardware Debug Support
- Two Powerful UART 0 and UART1 are each configurable as either a SPI master/slave or a UART
- 25-Pin package pinout

Applications

- 2.4-GHz IEEE 802.15.4 System
- Home/Building Automation
- Lighting Systems
- Low-Power Wireless Sensor Networks

Pin descriptions

Figure 1. 25-Pin package pinout



1. The above figure shows the package top view

Table 1. Pin definitions

	Pin name (function after reset)	Pin type	Perpheral I/O
1	P22	I/O	DC
2	P21	I/O	DD
3	GND	S	-
4	P17	I/O	TIM3_CH1/SPI_MISO
5	P16	I/O	TIM3_CH0/SPI_MOSI
6	GND	S	-
7	P15	I/O	SPI_CLK
8	P14	I/O	SPI_SS
9	P07	I/O	-
10	P06	I/O	-
11	P11	I/O	TIM4_CH1
12	P10	I/O	TIM4_CH0
12	P03	I/O	UART0_TX
14	P02	I/O	UART0_RX
15	P05	I/O	UART1_RX
16	P04	I/O	UART1_TX
17	VCC	S	-
18	VCC	S	-
19	P05	I/O	-
20	P04	I/O	-
21	GND	S	-
22	P21	I/O	-
23	P17	I/O	-
24	RST	RST	-
25	P22	I/O	-

Note:

Pin type: I/O Input / output pin

S Supply pin, voltage range: 2.0V to 3.6V

RST External reset pin. The following events generate a reset:

- Forcing the RST input pin low
- Power-on

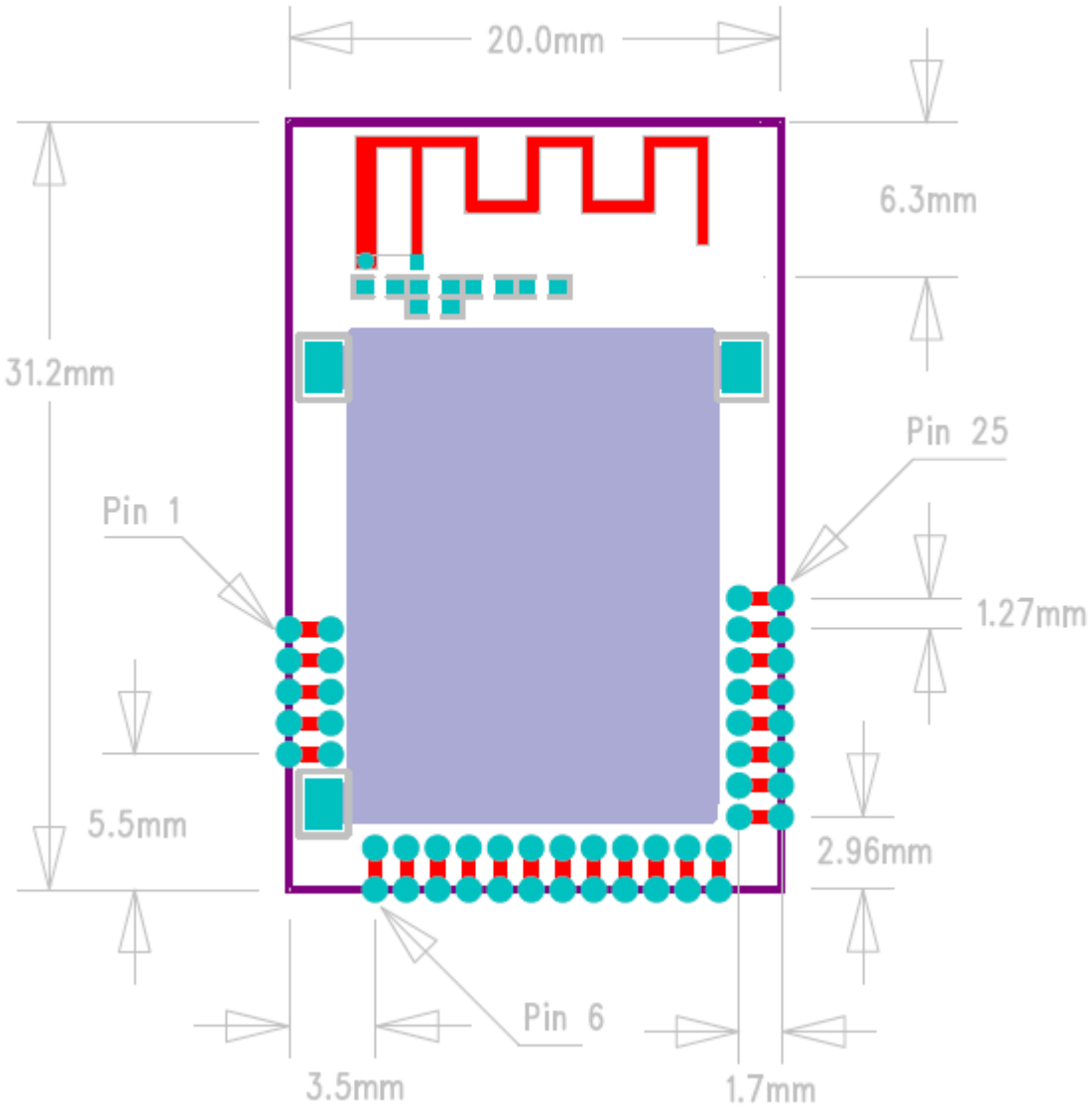
Functional overview

- Debug interface:
  The debug interface implements a proprietary two-wire serial interface that is used for in-circuit debugging. Through this debug interface, it is possible to perform an erasure of the entire flash memory, control which oscillators and enabled, stop and start execution of the user program, execute supplied instructions on the 8051 core, set code breakpoints, and single-step through instructions in the code.

- Timer 3 and Timer4
  Timer 3 and Timer4 are two 8-bit timers. Each timer has two independent capture-or-compare channels, each using one I/O pin per channel. Each of the counter channels can be used as a PWM output.

- UART 0 and UART 1
  UART 0 and UART 1 are serial communications interfaces that can be used as UART mode or in synchronous SPI mode. The two UARTs have identical functions, and are assigned to separate I/O pin. See Table 1. Pin definitions.

Dimension



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.
NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or changes to this equipment. Such modifications or changes could void the user's authority to operate the equipment.
A certified modular has the option to use a permanently affixed label, or an electronic label. For a permanently affixed label, the module must be labelled with an FCC ID: 2ADKR-F1RV0210.

The OEM manual must provide clear instructions explaining to the OEM the labelling requirements, options and OEM user manual instructions that are required

For a host using a this FCC certified modular with a standard fixed label, if (1) the module's FCC ID is notvisible when installed in the host, or (2) if the host is marketed so that end users do not have straightforward commonly used methods for access to remove the module so that the FCC ID of the module is visible; then an additional permanent label referring to the enclosed module: "Contains Transmitter Module FCC ID: 2ADKR-F1RV0210 or "Contains FCC ID: 2ADKR-F1RV0210 " must be used. The host OEM user manual must also contain clear instructions on how end users can find and/or access the module and the FCC ID.

Host product is required to comply with all applicable FCC equipment authorizations regulations, requirements and equipment functions not associated with the transmitter module portion. compliance must be demonstrated to regulations for other transmitter components within the host product; to requirements for unintentional radiators (Part 15B). To ensure compliance with all non-transmitter functions the host manufacturer is responsible for ensuring compliance with the module(s) installed and fully operational. If a host was previously authorized as an unintentional radiator under the Declaration of Conformity procedure without a transmitter certified module and a module is added, the host manufacturer is responsible for ensuring that the after the module is installed and operational the host continues to be compliant with the Part 15B unintentional radiator requirements. Since this may depend on the details of how the module is integrated with the host, we suggest the host device to recertify part 15B to ensure complete compliance with FCC requirement: Part 2 Subpart J Equipment Authorization Procedures , KDB784748 D01 v07, and KDB 997198 about importation of radio frequency devices into the United States.

It should be used only in host device that typically allow more than 20 cm separation between antenna and user.