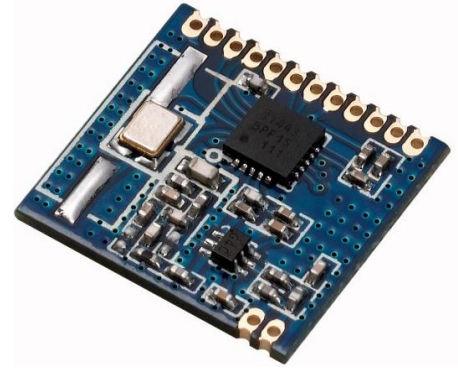


RF4432 wireless transceiver module

1. Description

RF4432 adopts Silicon Lab Si4432 RF chip, which is a highly integrated wireless ISM band transceiver chip. Extremely high receive sensitivity (-121 dBm) and +20 dBm output power ensure that the covering of the range and improve the data link performance. Built-in antenna diversity and the hopping function can be used to aggressively improve the performance.



2. Features

- Frequency Range: 433/868 (Customizable 240-930 MHz)
- Sensitivity up to -121 dBm
- Data transfer rate: 0.123-256 kbps
- FSK, GFSK and OOK Modulation mode
- 1.8-3.6 V Power supply
- Ultra-low consumption shutdown mode
- Digital received signal strength indicator (RSSI)
- Timed wake-up function
- The antenna automatically match and two-way switch control
- Configurable packet structure
- Preamble detection
- 64-byte transmit and receive data register (FIFO)
- Low-power detection
- Temperature sensor and 8-bit analog-to-digital converters
- Operating Temperature Range: -40 ~ + 85 °C
- Integrated voltage regulator
- Frequency hopping
- Power-on reset function
- Built-in crystal adjustment function

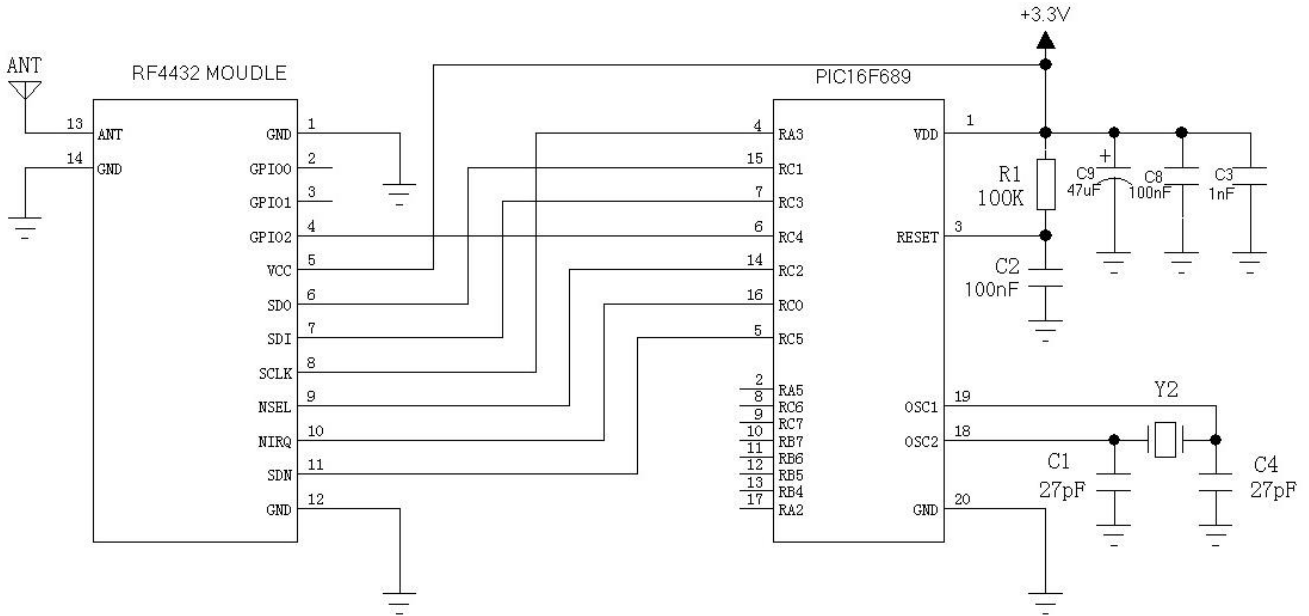
3. Application

- Remote control
- Remote meter reading
- Home security alarm and remote keyless entry
- Sensor networks
- Industrial control
- Tire Pressure Monitoring
- Home automation telemetry
- Health Monitoring
- Personal data records
- Wireless PC peripherals
- Toy control
- Tag reader

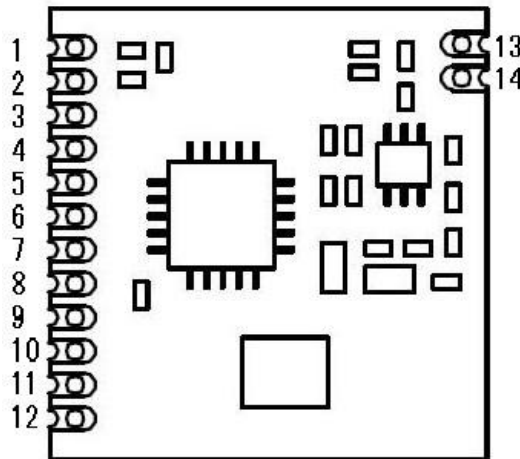
4. Electrical Specifications

Symbol	Parameter	conditions	Min	Typ	Max	Units
VDD	Supply Voltage Range		1.8	3	3.6	V
Ta	Operating Temperature Range		-40		85	°C
Current consumption						
Irx	current in rx mode			18.5		mA
Itx	Current in tx mode	@20dBm		85		mA
Istandby	Current in standby mode	Register values retained, Oscillator OFF		450	800	nA
Ishutdown	Current in shut down mode	Register value lost, Oscillator off SDN pull high		15	50	nA
RF parameters						
Ftx	Frequency Range	@315MHZ	285	315	335	MHZ
		@433MHZ	403	433	463	MHZ
		@470MHZ	470	490	510	MHZ
		@868MHZ	838	868	898	MHZ
		@915MHZ	895	915	935	MHZ
DRfsk	Data Rate	FSK	0.123		256	Kbps
Ptx	Output power		+1		+20	dBm
Prx	Rx Sensitivity	@data=1.2kbps,Fdev=20kHZ		-121		dBm

5. Schematic



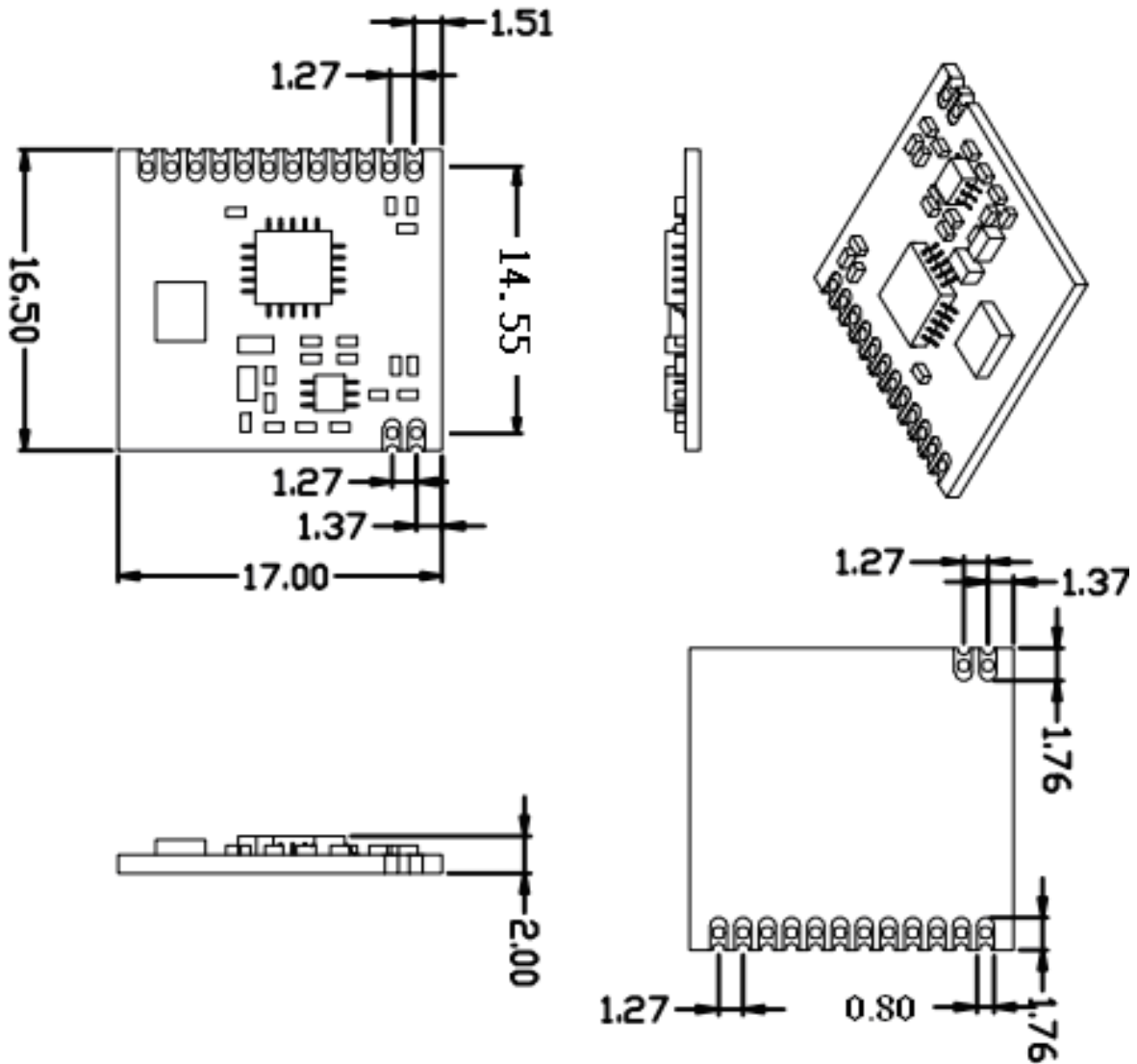
6. Pinout



Pin Number	Pin Definitions	Description
1	GND	Connected to power ground
2	GPIO0	Internally by module transmitter control foot
3	GPIO1	Internally by module receives control foot
4	GPIO2	GPIO2 pin chip directly connected
5	VCC	Positive supply 1.8--3.6V
6	SDO	0 ~ VDD V digital output provides a serial readback function of the internal control register
7	SDI	Serial data input. 0 ~ VDD V digital input. The pin is a 4-wire serial

		data stream of serial data bus.
8	SCLK	Serial clock input. 0 ~ VDD V digital input.This pin provides a 4-wire serial data clock function.
9	nSEL	The serial interface input pin. 0 ~ VDD V digital input. This pin to 4-wire serial data bus select / enable function, this signal is also used, said the burst read / write mode.
10	nIRQ	Interrupt output pin
11	SDN	Digital input. When SDN = 0, module not in shut down mode, When SDN = 1 module will be completely closed and the register values will be lost..
12	GND	Connected to power ground
13	ANT	From 50 ohm coaxial antenna
14	GND	Connected to power ground

7. Mechanical dimensions



8. Products Ordering Information

RF4432-T-433-3225

Module Model

Module package

Frequency

Crystal Package Type

For example:

- If the customer needs the patch module small crystal 433MHZ band module that order Model: RF4432-T-433-3225
- If a customer needs a plug-in module crystal 433MHZ module that order model for the: RF4432-C-433-3225

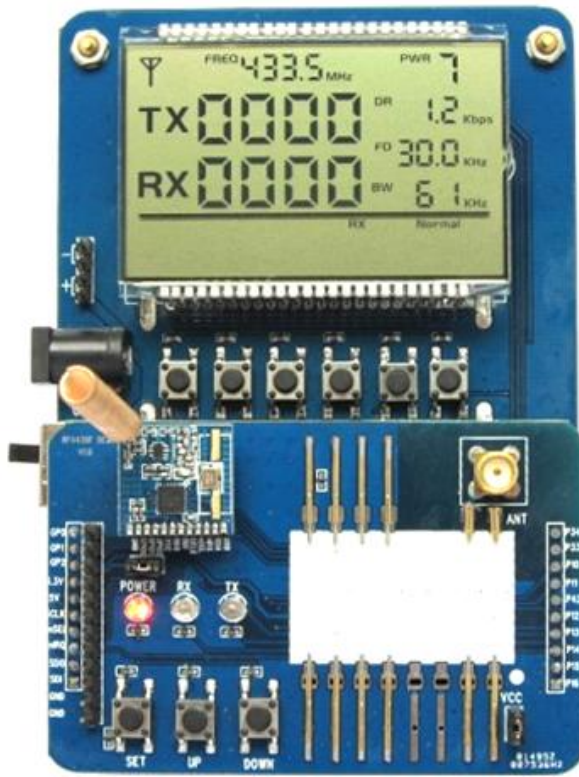
RF4432 products following models:

Orders Model	Product Type
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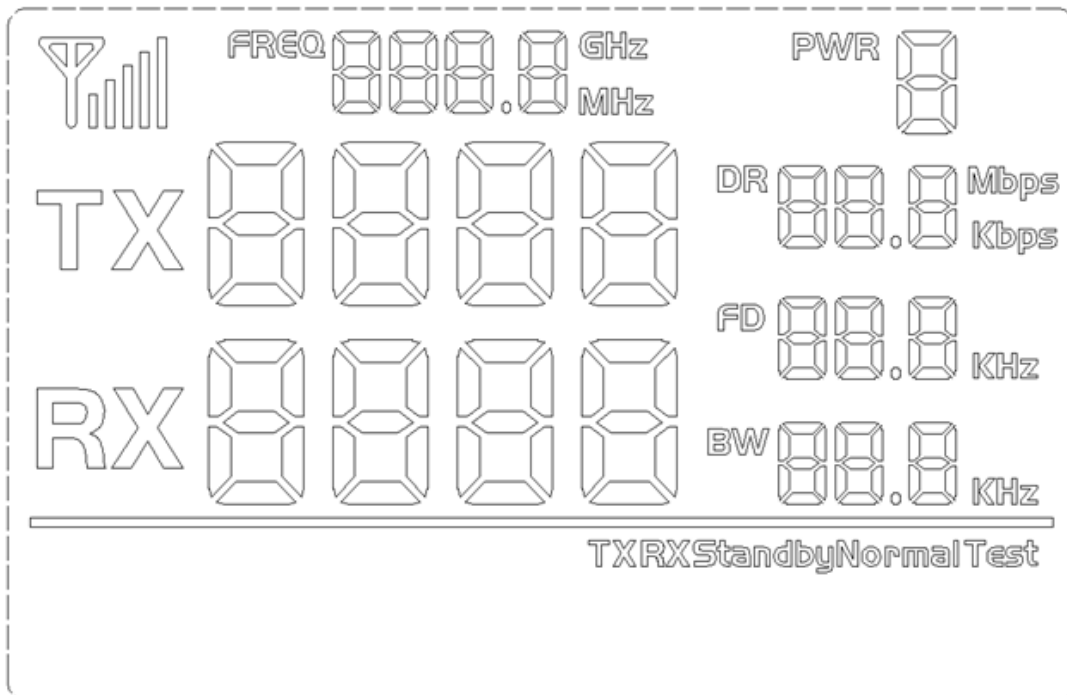
RF4432-T-433-3225	433MHZ, SMD module crystal pack
RF4432-T-433-49S	433MHZ, SMD module crystal pack
RF4432-T-470-3225	470MHZ, SMD module crystal pack
RF4432-T-470-49S	470MHZ, SMD module crystal pack
RF4432-T-868-3325	868MHZ, SMD module crystal pack
RF4432-T-868-49S	868MHZ, SMD module crystal pack
RF4432-T-915-3325	915MHZ, SMD module crystal pack
RF4432-T-915-49S	915MHZ, SMD module crystal pack
RF4432-C-433-3225	433MHZ, Pin module crystal pack
RF4432-C-433-49S	433MHZ, Pin module crystal pack
RF4432-C-470-3225	470MHZ, Pin module crystal pack
RF4432-C-470-49S	470MHZ, Pin module crystal pack
RF4432-C-868-3225	868MHZ, Pin module crystal pack
RF4432-C-868-49S	868MHZ, Pin module crystal pack
RF4432-C-915-3225	915MHZ, Pin module crystal pack
RF4432-C-915-49S	915MHZ, Pin module crystal pack

Appendix:

Module equipped with standard DEMO demo program, debugging, for customers to test distance. As shown in the following illustration:



The board of DEMO LCD display interface as shown below:



Users can set the button transceiver frequency, transmitter power, wireless transmission

module, serial number rate of transmission rate, the serial data bits, stop bits, parity bit parameters.

➤ Work mode:

- 1) Transmitting mode: Send data packets period (In setup mode, not to send data packets);
- 2) Reception mode: Enter the receiving mode after power up. Receive data packets and send to the serial ports.
- 3) Regular transmitting mode: the modules continuously transmit;
- 4) Regular receive mode: module is often receive state (not forwarding data);
- 5) Sleep mode: data transmission module in the standby state.

➤ Button operation

1) SET Button

Press enter setup mode, such as the setting of the last one parameter, then press jump set mode.

2) UP /Down Button

In setup mode, changes corresponding to the set parameters by these bottoms

3) Read Button

Read parameters of module, and updated on the LCD display.

4) Write Button

The button will be the current display interface parameters of write current connection module.

5) Default Button

Button factory default configuration parameters written to the current connection module.

Note: The data transmission module with FLASH, power-down all the parameters set can be saved automatically read the relevant parameters of the plug inside the module after power-on.