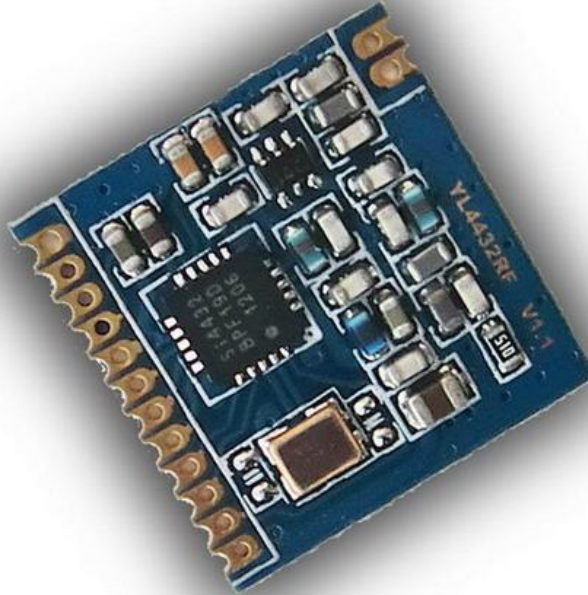


**SEM-YL-4432G 100mW Transceiver Module User Manual V1.0**



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## Description

Semitron's SEM-YL-4432G are highly integrated wireless ISM transceiver module. Very low receive sensitivity (-121dBm/1200bps), coupled with industry leading +20dBm output power ensures extended range and improved link performance. Built-in antenna diversity and support for frequency hopping can be used to further extend range and enhance performance.

## Features

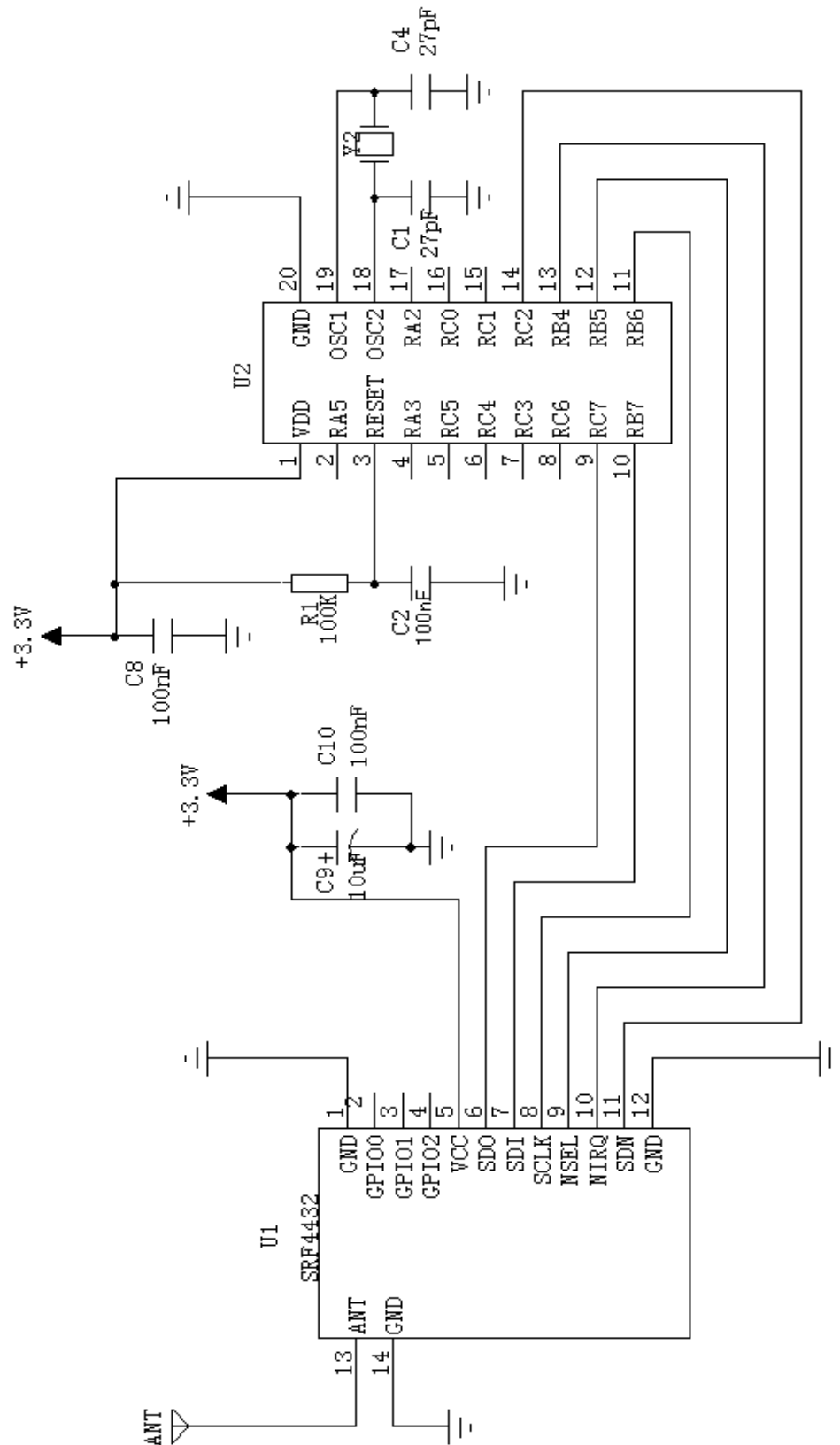
- Frequency Range: 433 MHz  
(other frequencies need to be customized)
- Sensitivity = -121 dBm at 1200bps
- Max output power:20dBm
- 85mA@+20dBm transmit
- Data Rate = 0.123 to 256 kbps
- FSK,GFSK and OOK modulation
- Power Supply = 1.8 to 3.6 V
- Ultra low power shutdown mode
- Digital RSSI
- Wake-up timer
- Auto-frequency calibration (AFC)
- Configurable packet handler
- Antenna diversity and TR switch control
- Preamble detector
- TX and RX 64 byte FIFOs
- Low battery detector
- Temperature sensor and 8-bit ADC
- -40 to +85 °C temperature range
- Integrated voltage regulators
- Frequency hopping capability
- Power-on-reset (POR)
- On-chip crystal tuning

## Applications

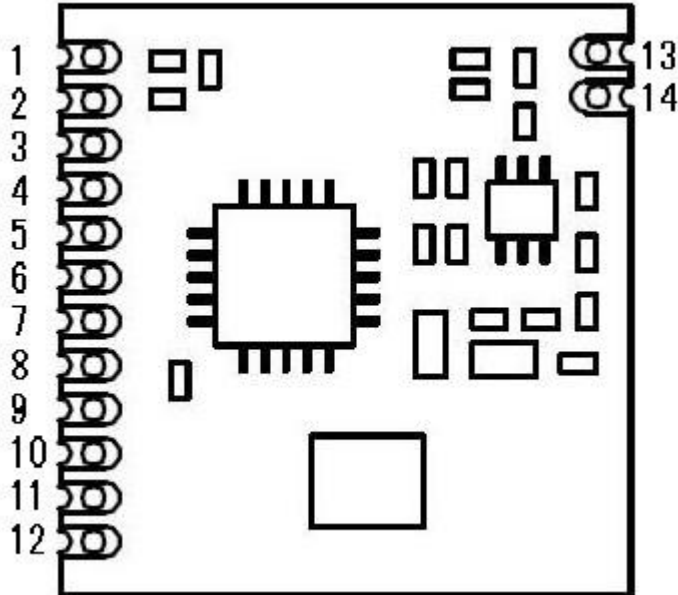
- Remote control
- Telemetry
- Home security & alarm
- Home automation
- Remote keyless entry
- Industrial control
- Toy control
- Personal data logging
- Remote meter reading
- Sensor networks
- Tire pressure monitoring
- Health monitors
- Wireless PC peripherals
- Tag readers

**Characteristics**

Parameter	Min	Tye	Max	Units	Conditions
<b>Operating Condition</b>					
Supply Voltage Range	1.8	3.3	3.6	V	—
Operating Temperature	-20	—	85	°C	—
<b>DC Characteristics</b>					
Rx Mode Current	—	18.5	—	mA	—
Tx Mode Current	—	85	—	mA	@20dBm
Sleep Mode Current	—	<1	—	uA	—
<b>RF Parameter</b>					
Frequency range	428	433	438	MHZ	@433MHZ
Modulation rate	0.123	—	256	Kbps	FSK
Output power range	0	—	20	dBm	—
Sensitivity	—	-121	—	dBm	@data=1.2kbps,Fdev=30kHz

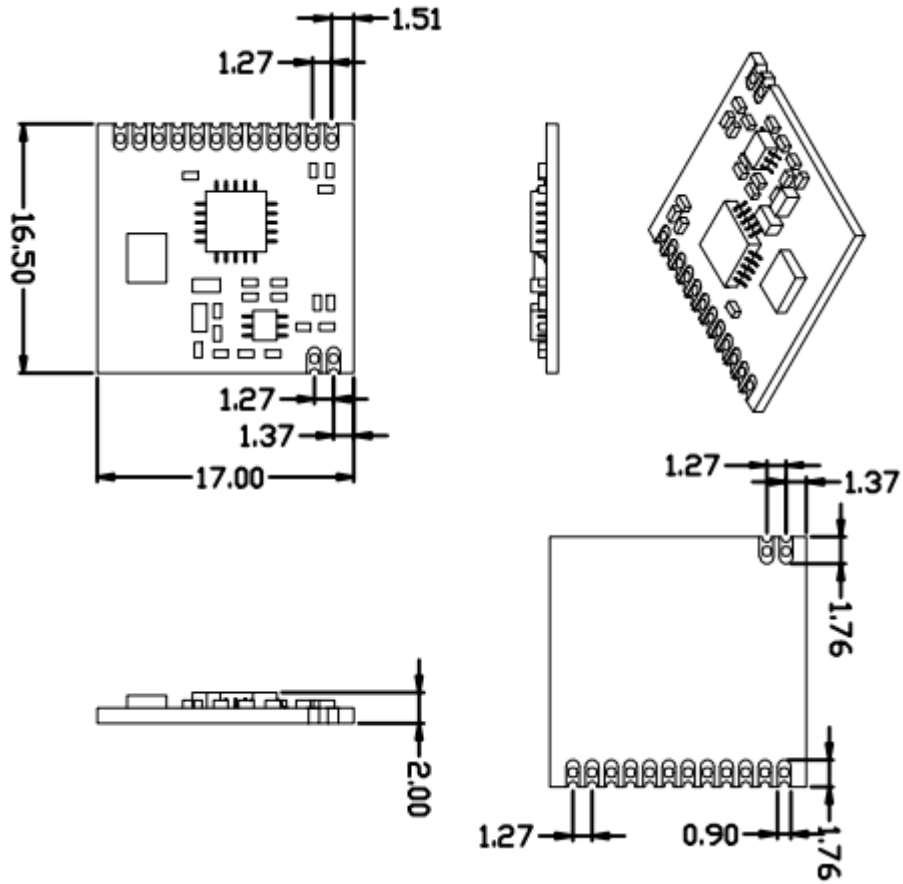
**Typical Application Circuit**


## Pin Descriptions



Pin	Pin Name	Descriptions
1	GND	Ground.
2	GPIO0	Connected module's Tx pin internal, Tx status is high, Rx is low.
3	GPIO1	Connected module's Rx pin internal, Rx status is high, Tx is low.
4	GPIO2	Connect to chip's GPIO2 pin.
5	VCC	Connect positive power supply at 3.3V.
6	SDO	0~VDD V digital output that provides a serial readback function of the internal control registers.
7	SDI	Serial data input. 0~VDD V digital input. This pin provides the serial data stream for the 4-line serial data bus.
8	SCLK	Serial clock input. 0~VDD V digital input. This pin provides the serial data clock function for the 4-line serial data bus.
9	nSEL	Serial interface select input. 0~VDD V digital input. This pin provides the Select/Enable function for the 4-line serial data bus. The signal is also used to signify burst read/write mode.
10	nIRQ	Interrupt output pin.
11	SDN	Shut down input pin. 0~VDD V digital input. SDN should be = 0 in all modes except Shutdown mode. When SDN=1 the chip will be completely shutdown and the contents of the registers will be lost.
12	GND	Ground.
13	ANT	Connected 50OHM coaxial antenna.
14	GND	Ground.

**Mechanical Dimension**



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