

**REXENSE**

**Sub-1GHz Wireless Module(DIP)**  
REX2DP



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## **VERSION HISTORY**

V1.0.0	2010/06/4	1st issue of preliminary document
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## 1. Introduction

**Rexense Sub-1GHz Wireless Module (REX2DP)** is a type of surface mounted module that enables users to implement wireless solution which satisfies the needs of low-cost, low-power wireless sensor networks. The module is easy-to-use, saves board space and offers reliable delivery of data between devices.

**Rexense Sub-1GHz Wireless Module (REX2DP)** operates from ISM 240-960Mhz frequency band. The module's default configuration supports a wide range of data system applications. The module is embedded with 32-bit wireless microcontroller to offer a wide variety of solutions.

## 2. Product Features

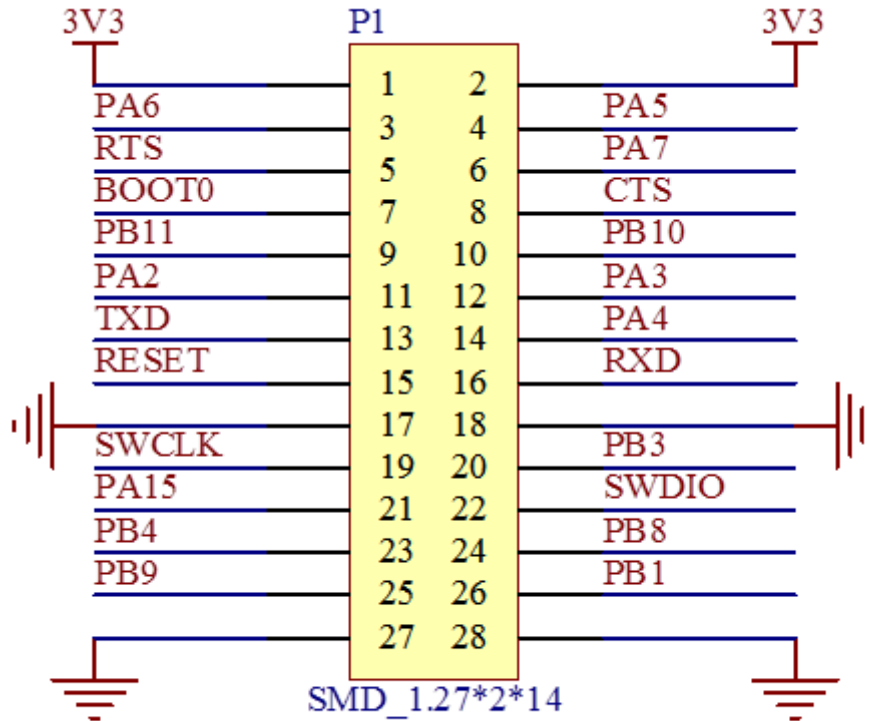
- State-of-art SI4432 chip adopted
- Embedded with 32-bit STM32F microcontroller
- Easy to integrate for hardware equipment manufacturers
- Wide communication range and high network reliability

## 3. Specifications

<b>Dimensions (L*W*H)</b>	41.00x21.50x9.95mm
<b>Maximum Transmit Range (LOS)</b>	2000m (with External Antenna)
<b>Maximum Output Power</b>	20dBm
<b>RF Data Rate</b>	Up to 128kbps ( software selectable)
<b>Serial Data Rate (software selectable)</b>	1200-230400 bps
<b>RX Sensitivity (1% packet error rate)</b>	-110dBm
<b>Supply Voltage</b>	3.3V±0.3V
<b>Operating Current(Transmit)</b>	103mA@20dBm
<b>Operating Current(Receive)</b>	37mA
<b>Operating Frequency</b>	ISM 240-960MHz
<b>Operating Temperature</b>	-40 to 85°C
<b>Antenna Interface</b>	U.FL; Helical antenna
<b>Interface Features</b>	24 GPIO ports; 3 serial ports UART supported; 1 SPI and I2C supported; 7x12 bits A/D ports.

## 4. Pin Configurations

### 4.1 Pin Signal

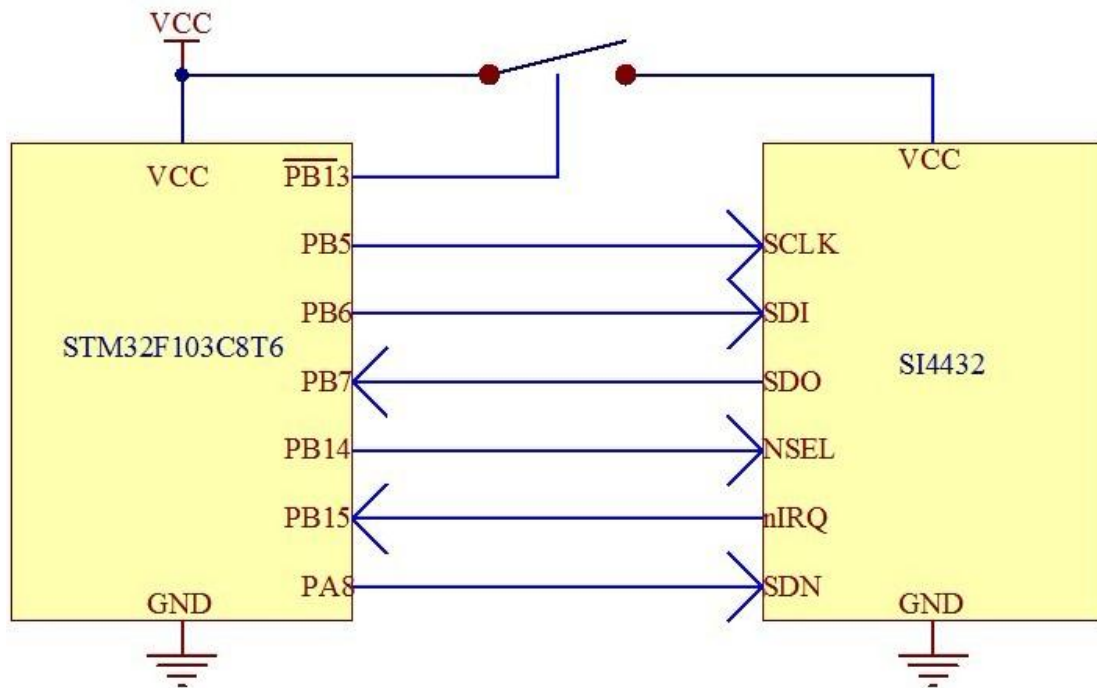


### 4.2 Pin Assignment

Module Pin No.	Signal	STM32F Pin No.	Default	Remap
P1-1	3V3	-	DC3.3V	
P1-2	3V3	-	DC3.3V	
P1-3	PA6	16	SPI1_MISO(8)/ADC_IN6	TIM3_CH1(8)
P1-4	PA5	15	SPI1_SCK(8)/ADC_IN5	
P1-5	RTS	33	USART1_RTS	
P1-6	PA7	17	SPI1_MOSI(8)/ADC_IN7	TIM3_CH2(8)
P1-7	BOOT0	44	-	
P1-8	CTS	32	USART1_CTS	
P1-9	PB11	22	I2C2_SDA/ USART3_RX (8)	
P1-10	PB10	21	I2C2_SCL/ USART3_TX (8)	
P1-11	PA2	12	USART2_TX(8)/ ADC_IN2/TIM2_CH3(8)	

Module Pin No.	Signal	STM32F Pin No.	Default	Remap
P1-12	PA3	13	USART2_RX(8)/ ADC_IN3/TIM2_CH4(8)	
P1-13	TXD	30	USART1_TX(8)	
P1-14	PA4	14	SPI1_NSS(8)/ADC_IN4 USART2_CK(8)/	
P1-15	NRESE T	7	-	
P1-16	RXD	31	USART1_RX(8)	
P1-17	GND	-	Ground	
P1-18	GND	-	Ground	
P1-19	SWCLK	37	-	
P1-20	PB3	39	-	
P1-21	PA15	38	-	
P1-22	SWDIO	34	-	
P1-23	PB4	40	-	
P1-24	PB8	45	TIM4_CH3 I2C1_SCL/CANRX	
P1-25	PB9	46	TIM4_CH4 I2C1_SDA/CANTX	
P1-26	PB1	19	ADC_IN9/TIM3_CH4(8)	
P1-27	GND	-	Ground	
P1-28	GND	-	Ground	

## 5. System Block Diagram



### Module firmware development:

- **Development tool: J-Link**

Download links: <http://www.segger.com/jlink-software.html>

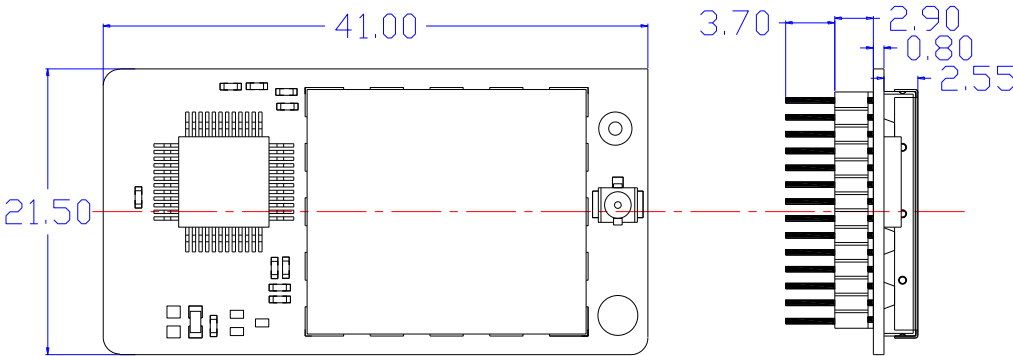
- **Integrated development environment: IAR**

Download links: <http://www.iar.com/en/Products/IAR-Embedded-Workbench/ARM/>

- **Development Board: Enhanced Development Board**

Download links: [http://www.rexense.com/en/products\\_det.php?classid=34&idd=65](http://www.rexense.com/en/products_det.php?classid=34&idd=65)

### 6. Outline Drawings



Outline Drawings (in mm)

### 7. Contact Us

**ZHEJIANG REXENSE TECHNOLOGY CO., LTD**  
Address: Room 105, No.7 Cuibai Road, Xihu District, Hangzhou 310012 P.R.China.  
Tel: +86-571-85395623  
Fax: +86-571-87987620  
Email: [intl@rexense.com](mailto:intl@rexense.com)  
Website: [www.rexense.com](http://www.rexense.com)