

DRF4432F20 20dBm ISM RF Transceiver Module

V1.10

Features:

Frequency Range: 433/868MHzModulation: FSK/GFSK/OOK

SPI Data Interface
Sensitivity: -121dBm
Output Power: +20dBm
Data Rate: -0.123~256 kbps

Digital RSSI

Wake-up Timer

• 64 bytes TX/RX FIFOs

Integrated Voltage Regulator

Frequency Hopping Capability

■ Temperature sensor and 8-bit ADC

■ Working Temperature: -20°C ~+60°C

Standby current: ≤ 1uASupply voltage: 1.8~3.6V



Applications

- Remote Control
- Remote AMR
- Home Automation
- Personal data logger
- Wireless sensor network
- Remote Keyless entry
- Wireless PC peripherals

DESCRIPTION

DRF4432F20 is a type of low cost RF front-end transceiver module based on SI4432 from Silicon labs. It keeps all the advantages of RFIC SI4432 but simplifies the circuit design. The high sensitivity (-121dBm) and 20dBm high power output make the module suitable for most short range applications.

DRF4432F20 module consists of RFIC Si4432, thin SMD crystal and antenna matching circuit. The antenna port is well matched to standard 50 Ohm impedance. Users don't need to spend time in RF circuit design and choose suitable antennas for different applications. DORJI also provides SMA connector and high gain antenna for longer communication distance. DRF4432D20 operates at 1.8~3.6V with extra low standby current which makes it suitable for battery powered-up applications. DORJI also provides high power module DRF4431F27 with 500mW output power, which provides users high flexible in designing products for different distances.



PIN FUNCTIONS

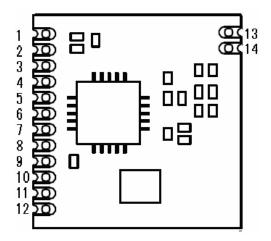


Figure 1: DRF4432F20 Pin Layout

PIN	Name	Function	Description
1	GND	Ground	Ground (0V)
2	GPIO0	Input	Tx_EN pin; High in transmit mode and Low in receive mode
3	GPIO1	Input	Rx_EN pin; High in receive mode and Low in transmit mode
4	GPIO2	Input/Output	General purpose Input/Output pin
5	VCC	Power	Normal 3.3V
6	SDO	Output	SPI data output pin
7	SDI	Input	SPI data input pin
8	SCLK	Input	SPI data clock pin
9	nSEL	Input	SPI select pin
10	nIRQ	Onput	Interrupt status output pin
11	SDN	Input	Shutdown Input pin
12	GND	Ground	Ground (0V)
13	Ant	Output	50 Ohm Impedance
14	GND	Ground	Ground (0V)

Table 1: DRF4432F20 Pin Functions



ELECTRICAL SPECIFICATIONS

Symbol	Parameter	(condition)	Min.	Тур.	Max.	Units	
VCC	Supply Voltage		1.8		3.6	V	
Temp	Operating temperature ran	ge	-20	25	60	°C	
Freq	Frequency range		428	433	438	MHz	
			863	868	873		
FDEV	Modulation deviation	@433MHz	±0.625		±160	KHz	
		@868MHz	±0.625		±320	KHZ	
RESRSSI	RSSI resolution			±0.5		dB	
Idd r	Current in receive mode	@ 433Mhz		18.1		mA	
IDD_K		@868Mhz		18.1			
IDD_T (1)	Current in transmit mode	@ 433Mhz		85		A	
IDD_T		@ 868Mhz		85		mA	
IDD_S	Current in sleep mode.				1	uA	
Pout	Max. output power	@ 433Mhz		18.5	19.5	dDm	
Pout		@ 868Mhz		18.5	19.5	dBm	
Sen. (2)	Receiver sensitivity	@ 433Mhz	-121	-118		dBm	
Sen.		@ 868Mhz	-121	-118		asm	
DRFSK	FSK data rate		0.123		256	Kbps	
СНви	Receiver channel spacing		2.6		620	kHz	
ZANT	Antenna Impedance			50		Ohm	

Table 2: DRF4432F20 Electrical Specifications

Notes:

- (1) Transmit current is tested at the Max. output power.
- (2) Sensitivity is measured at DRFSK = 1.2k bps and FDEV = ± 30 kHz

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Min.	Max.	Units
VCC	Supply Voltage	-0.3	3.6	V
VI	Input voltage	-0.3	VCC+0.3	V
VO	Output voltage	-0.3	VCC+0.3	V
Tst	Storage temperature	-55	125	°C

Table 3: DRF4432F20 Maximum Ratings



TYPICAL APPLICATION CIRCUIT

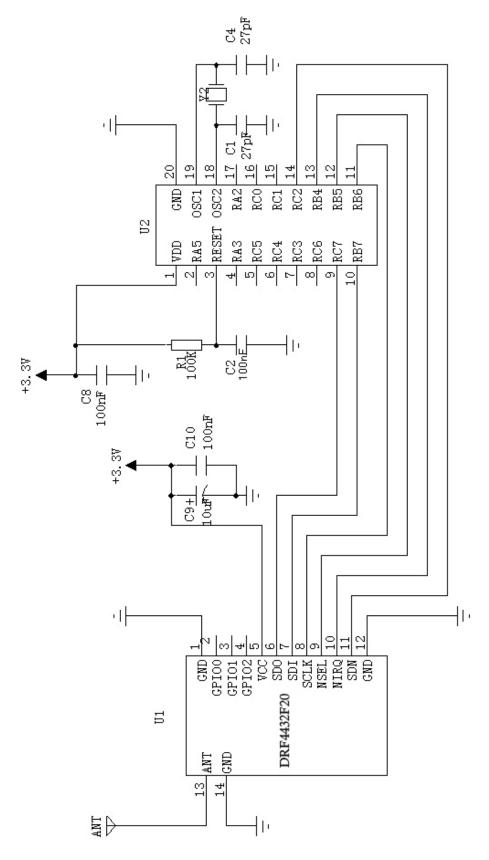


Figure 2: Application Circuit

MECHANICAL DATA

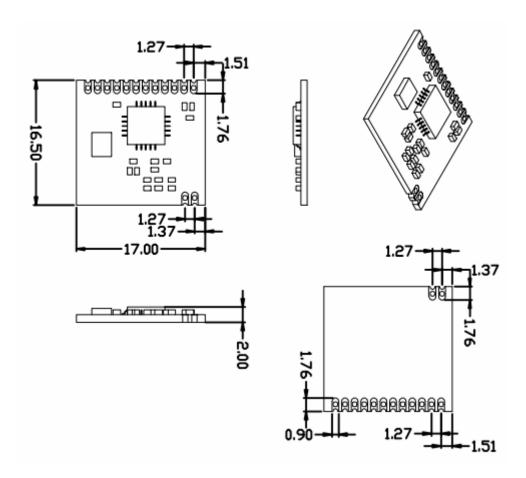


Figure 3: Mechanical Dimension

ORDERING INFORMATION

<u>DRF 4432 F 20 — 043 S</u>

1 2 34 5 6

Num	Symbol	Meaning
1	RF module	RF FSK/GFSK module
2	IC Type	SI4432
3	Module Function	RF front-end module
4	Power	20dBm output power
5	Freq. Band	043: 433MHz 086:868MHz
6	Package	SMD package

Table 4: Ordering Information



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